EL834341252US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	:	O'Brien, Timothy J. et al.
Serial No.	:	Unassigned
Filing Date	:	September 27, 2001
For	:	**REPEAT SEQUENCES OF THE CA125 GENE AND THEIR USE FOR DIAGNOSTIC AND THERAPEUTIC INTERVENTIONS**
Examiner	:	Unassigned
Group Art Unit	:	Unassigned

TRANSMITTAL OF VERIFIED STATEMENT FOR THE NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES AS REQUIRED BY 37 C.F.R. § 1.821(e)

Assistant Commissioner for Patents
Washington, DC 20231

Sir:

Transmitted herewith is an original Sequence Listing which comprises nucleotide and amino acid sequences contained in the application as filed. Applicants include a paper copy of the Sequence Listing as well as a diskette which contains the computer readable form of the Sequence Listing. Pursuant to 37 C.F.R. § 1.821(e), the paper copy and computer readable form, are the same.

Respectfully submitted,

Date: September 27, 2001

Pat Winston Kennedy
Reg. No. 36,970

Kilpatrick Stockton LLP
1001 West Fourth Street
Winston-Salem, NC 27101
Phone: (336) 607-7336
Facsimile: (336) 607-7500

Attorney Docket No.: 40715-260477
40715-260477
WINLIB01:909736.1

SEQUENCE LISTING

<110> O'Brien, Timothy

<120> Repeat Sequences of the CA125 Gene and Their Use for Diagnostic and Therapeutic Interventions

<130> 40715-258841

<150> US 60/284,175

<151> 2001-04-17

<160> 306

<170> PatentIn version 3.0

<210> 1

<211> 13

<212> PRT

<213> Homo sapiens

<400> 1

Gln His Pro Gly Ser Arg Lys Phe Lys Thr Thr Glu Gly
1 5 10

<210> 2

<211> 11

<212> PRT

<213> Homo sapiens

<400> 2

Phe Leu Thr Val Glu Arg Val Leu Gln Gly Leu

1 5 10

<210> 3

<211> 8

<212> PRT

<213> Homo sapiens

<400> 3

Asp Thr Tyr Val Gly Pro Leu Tyr
1 5

<210> 4

<211> 8

<212> PRT

<213> Homo sapiens

<400> 4

Asp Gly Ala Ala Asn Gly Val Asp
1 5

<210> 5

<211> 240

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)..(240)

<400> 5

cgt cga cct ggc tct aga aag ttt aac acc acg gag aga gtc ctt cag 48
Arg Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln
1 5 10 15

ggt ctg ctc agg cct gtg ttc aag aac acc agt gtt ggc cct ctg tac 96
Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr
20 25 30

tct ggc tgc aga ctg acc ttg ctc agg ccc aag aag gat ggg gca gcc 144
Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala
35 40 45

acc aaa gtg gat gcc atc tgc acc tac cgc cct gat ccc aaa agc cct 192
Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro
50 55 60

gga ctg gac aga gag cag cta tac tgg gag ctg agc cag ggt gat gca 240
Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Gly Asp Ala
65 70 75 80

<210> 6

<211> 80

<212> PRT

<213> Homo sapiens

<400> 6

Arg Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln
1 5 10 15

Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr
20 25 30

Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala
35 40 45

Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro
50 55 60

Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Gly Asp Ala
65 70 75 80

<210> 7

<211> 20

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 7
ggagagggtt ctgcagggtc 20

<210> 8

<211> 6

<212> PRT

<213> Artificial

<220>

<223> Synthetic Primer

<400> 8

Glu Arg Val Leu Gln Gly
1 5

<210> 9

<211> 20

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 9
gtgaatggta tcaggagagg 20

<210> 10

<211> 6

<212> PRT

<213> Artificial

<220>

<223> Synthetic Primer

<400> 10

Pro Leu Leu Ile Pro Phe
1 5

<210> 11

<211> 131

<212> PRT

<213> Homo sapiens

<400> 11

```
Glu Arg Val Leu Gln Gly Leu Leu Arg Ser Leu Phe Lys Ser Thr Ser
1               5                   10                  15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
            20                  25                  30

Lys Asp Gly Thr Ala Thr Gly Val Asp Ala Ile Cys Thr His His Pro
        35                  40                  45

Asp Pro Lys Ser Pro Arg Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
    50                  55                  60

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ala Leu Asp
65                  70                  75                  80

Asn Asp Ser Leu Phe Val Asn Gly Phe Thr His Arg Ser Ser Val Ser
                85                  90                  95

Thr Thr Ser Thr Pro Gly Thr Pro Thr Val Tyr Leu Gly Ala Ser Lys
            100                 105                 110

Thr Pro Ala Ser Ile Phe Gly Pro Ser Ala Ala Ser Pro Leu Leu Ile
        115                 120                 125

Pro Phe Thr
    130
```

<210> 12

<211> 130

<212> PRT

<213> Homo sapiens

<400> 12

```
Glu Arg Val Leu Gln Gly Leu Leu Met Pro Leu Phe Lys Asn Thr Ser
1               5                   10                  15

Val Ser Ser Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
            20                  25                  30

Lys Asp Gly Ala Ala Thr Arg Ala Asp Ala Val Cys Thr His Arg Pro
```

35 40 45

Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu
50 55 60

Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg His Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr
85 90 95

Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg
100 105 110

Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile
115 120 125

Pro Phe
130

<210> 13

<211> 132

<212> PRT

<213> Homo sapiens

<400> 13

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Ile Phe Lys Asn Thr Ser
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Ser Glu
20 25 30

Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Ile His Arg Leu
35 40 45

Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu
50 55 60

Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser
85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly
100 105 110

Thr Pro Ser Ser Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu
115 120 125

Leu Ile Pro Phe
130

<210> 14

<211> 130

<212> PRT

<213> Homo sapiens

<400> 14

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser
1 5 10 15

Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
20 25 30

Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser His Arg Leu
35 40 45

Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu
50 55 60

Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala
85 90 95

Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly
100 105 110

Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala Val Pro Leu Leu Ile
115 120 125

Pro Phe
130

<210> 15

<211> 130

<212> PRT

<213> Homo sapiens

<400> 15

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Leu Phe Lys Asn Ser Ser
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Ile Ser Leu Arg Ser Glu
20 25 30

Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His His Leu
35 40 45

Asn Pro Gln Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu
    50   55   60

Ser Gln Met Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp
65   70   75   80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu
                85   90   95

Thr Thr Ser Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly
            100   105   110

Thr Pro Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Phe Leu Ile
        115   120   125

Pro Phe
    130

<210> 16

<211> 130

<212> PRT

<213> Homo sapiens

<400> 16

Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe Lys Ser Thr Ser
1   5   10   15

Ala Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
            20   25   30

Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu
        35   40   45

Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
    50   55   60

Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65   70   75   80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro
                85   90   95

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly
            100   105   110

Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Ile
        115   120   125

Pro Phe
    130

<210> 17

<211> 130

<212> PRT

<213> Homo sapiens

<400> 17

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
20 25 30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu
35 40 45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro
85 90 95

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly
100 105 110

Thr Pro Ala Ser Leu Pro Gly His Ile Val Pro Gly Pro Leu Leu Ile
115 120 125

Pro Phe
130

<210> 18

<211> 131

<212> PRT

<213> Homo sapiens

<400> 18

Glu Arg Val Leu Gln Gly Leu Leu Thr Pro Leu Phe Lys Asn Thr Ser
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
20 25 30

Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val
35 40 45

Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
50 55 60

Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg Asp Ser Leu Tyr Val Asp Gly Phe Asn Pro Trp Ser Ser Val Pro
85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly
100 105 110

Thr Pro Ser Pro Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile
115 120 125

Pro Phe Thr
130

<210> 19

<211> 131

<212> PRT

<213> Homo sapiens

<400> 19

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
20 25 30

Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu
35 40 45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp
65 70 75 80

Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro
85 90 95

Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu
100 105 110

Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Val
115 120 125

Pro Phe Thr
130

<210> 20

<211> 130

<212> PRT

<213> Homo sapiens

<400> 20

Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu
20 25 30

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro
35 40 45

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
50 55 60

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp
65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro
85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly
100 105 110

Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile
115 120 125

Pro Phe
130

<210> 21

<211> 131

<212> PRT

<213> Homo sapiens

<400> 21

Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser
1 5 10 15

Ile Gly Pro Leu Tyr Ser Ser Cys Arg Leu Thr Leu Leu Arg Pro Glu
20 25 30

Lys Asp Lys Ala Ala Thr Arg Val Asp Ala Ile Cys Thr His His Pro
35 40 45

Asp Pro Gln Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu
50 55 60

Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg Asp Ser Leu Tyr Val Asp Gly Phe Thr His Trp Ser Pro Ile Pro
85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Ile Val Asn Leu Gly Thr Ser Gly
100 105 110

Ile Pro Pro Ser Leu Pro Glu Thr Thr Ala Thr Gly Pro Leu Leu Ile
115 120 125

Pro Phe Thr
130

<210> 22

<211> 282

<212> PRT

<213> Homo sapiens

<400> 22

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser
1 5 10 15

Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu
20 25 30

Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro
35 40 45

Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
50 55 60

Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro
85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly
100 105 110

Thr Pro Ser Ser Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met
115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
130 135 140

Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu

145 150 155 160

Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala
180 185 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg
195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
210 215 220

His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu
225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr
245 250 255

Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser
260 265 270

Phe Pro Gly His Thr Glu Pro Gly Pro Leu
275 280

<210> 23

<211> 286

<212> PRT

<213> Homo sapiens

<400> 23

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser
1 5 10 15

Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu
20 25 30

Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro
35 40 45

Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
50 55 60

Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu
85 90 95

Thr Thr Ser Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly
100 105 110

Thr Pro Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Ile
115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn
130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu
145 150 155 160

Gln Gly Leu Leu Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala
180 185 190

Ala Thr Arg Val Asp Ala Val Cys Thr Gln Arg Pro Asp Pro Lys Ser
195 200 205

Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr
210 215 220

His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Leu
225 230 235 240

Tyr Val Asn Gly Leu Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr
245 250 255

Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser
260 265 270

Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe
275 280 285

<210> 24

<211> 250

<212> PRT

<213> Homo sapiens

<400> 24

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
20 25 30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu
35 40 45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp
65 70 75 80

Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Thr Ser Val Pro
85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly
100 105 110

Thr Pro Phe Ser Leu Pro Ser Pro Ala Thr Ala Gly Pro Leu Leu Val
115 120 125

Leu Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys Tyr Glu Glu Asp
130 135 140

Met His Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145 150 155 160

Gln Thr Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Ser Glu Lys Asp Gly Ala
180 185 190

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser
195 200 205

Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
210 215 220

Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
225 230 235 240

Tyr Val Asn Gly Phe Thr His Trp Ile Pro
245 250

<210> 25

<211> 286

<212> PRT

<213> Homo sapiens

<400> 25

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
20 25 30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu
35 40 45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp

65 70 75 80

Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro
85 90 95

Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu
100 105 110

Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile
115 120 125

Pro Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn
130 135 140

Met His His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu
145 150 155 160

Gln Gly Leu Leu Gly Pro Leu Phe Lys Asn Ser Ser Val Gly Pro Leu
165 170 175

Tyr Ser Gly Cys Arg Leu Ile Ser Leu Arg Ser Glu Lys Asp Gly Ala
180 185 190

Ala Thr Gly Val Asp Ala Ile Cys Thr His His Leu Asn Pro Gln Ser
195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu Ser Gln Met Thr
210 215 220

Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu Thr Thr Ser Thr
245 250 255

Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Pro
260 265 270

Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Ile Pro Phe
275 280 285

<210> 26

<211> 286

<212> PRT

<213> Homo sapiens

<400> 26

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
20 25 30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu
35 40 45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp
65 70 75 80

Arg Gly Ser Leu Tyr Val Asn Gly Phe Ser Arg Gln Ser Ser Met Thr
85 90 95

Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg
100 105 110

Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile
115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn
130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu
145 150 155 160

Gln Gly Leu Leu Asn Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Lys Pro Glu Lys Asp Gly Ala
180 185 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg
195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
210 215 220

His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala Pro Thr Ser Thr
245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser
260 265 270

Leu Pro Ser Pro Thr Thr Ala Val Pro Leu Leu Ile Pro Phe
275 280 285

<210> 27

<211> 286

<212> PRT

<213> Homo sapiens

<400> 27

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
20 25 30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu
35 40 45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp
65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro
85 90 95

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Phe Gly
100 105 110

Thr Pro Ala Ser Leu His Gly His Thr Ala Pro Gly Pro Val Leu Val
115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
130 135 140

Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala
180 185 190

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn
195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr
210 215 220

Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu
225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr
245 250 255

Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser
260 265 270

Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile Pro Phe
275 280 285

<210> 28

<211> 286

<212> PRT

<213> Homo sapiens

<400> 28

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
20 25 30

Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu
35 40 45

Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
50 55 60

Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro
85 90 95

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly
100 105 110

Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Val
115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
130 135 140

Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala
180 185 190

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn
195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr
210 215 220

Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu
225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr
245 250 255

Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser
260 265 270

Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile Pro Phe
275 280 285

<210> 29

<211> 281

<212> PRT

<213> Homo sapiens

<400> 29

Glu Arg Val Leu Gln Gly Leu Leu Thr Pro Leu Phe Lys Asn Thr Ser
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
20 25 30

Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val
35 40 45

Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
50 55 60

Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser Ser Val Pro
85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly
100 105 110

Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile
115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn
130 135 140

Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala
180 185 190

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser
195 200 205

Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
210 215 220

Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
225 230 235 240

Tyr Val Asn Gly Phe Thr His Trp Ile Pro Val Pro Thr Ser Ser Thr
245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Gly Ser Gly Thr Pro Ser Ser Leu
260 265 270

Pro Ser Pro Thr Thr Ala Gly Pro Leu
275 280

<210> 30

<211> 217

<212> PRT

<213> Homo sapiens

<400> 30

Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser
1 5 10 15

Ile Gly Pro Leu Tyr Ser Ser Cys Arg Leu Thr Leu Leu Arg Pro Glu
20 25 30

Lys Asp Lys Ala Ala Thr Arg Val Asp Ala Ile Cys Thr His His Pro
35 40 45

Asp Pro Gln Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu
50 55 60

Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg Asp Ser Leu Tyr Val Asp Gly Phe Thr His Trp Ser Pro Ile Pro
85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Ile Val Asn Leu Gly Thr Ser Gly
100 105 110

Ile Pro Pro Ser Leu Pro Glu Thr Thr Ala Thr Gly Pro Leu Leu Ile
115 120 125

Pro Phe Thr Pro Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
130 135 140

Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu
145 150 155 160

Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala
180 185 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg

195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr
210 215

<210> 31

<211> 286

<212> PRT

<213> Homo sapiens

<400> 31

Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys
20 25 30

Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro
35 40 45

Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
50 55 60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro
85 90 95

Thr Thr Ser Ile Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly
100 105 110

Thr Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Val
115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
130 135 140

Met His Arg Pro Gly Ser Arg Lys Phe Asn Ala Thr Glu Arg Val Leu
145 150 155 160

Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala
180 185 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg
195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
210 215 220

His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu
225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr
245 250 255

Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser
260 265 270

Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe
275 280 285

<210> 32

<211> 288

<212> PRT

<213> Homo sapiens

<400> 32

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser
1 5 10 15

Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys
20 25 30

Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro
35 40 45

Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
50 55 60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro
85 90 95

Thr Thr Ser Ile Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly
100 105 110

Thr Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Ile
115 120 125

Pro Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn
130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu
145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala
180 185 190

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser
195 200 205

Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr
210 215 220

Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr
245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser
260 265 270

Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu Ile Pro Phe
275 280 285

<210> 33

<211> 284

<212> PRT

<213> Homo sapiens

<400> 33

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
20 25 30

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro
35 40 45

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Cys Glu Leu
50 55 60

Ser Gln Leu Thr His Asp Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp
65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro
85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly
100 105 110

Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile
115 120 125

Pro Phe Thr Phe Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn
130 135 140

Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu

```
145                 150                 155                 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu
                165                 170                 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Glu Ala
            180                 185                 190

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile Gly
        195                 200                 205

Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr
    210                 215                 220

Asn Ser Ile His Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu
225                 230                 235                 240

Tyr Val Asn Gly Phe Asn Pro Arg Ser Ser Val Pro Thr Thr Ser Thr
                245                 250                 255

Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser
            260                 265                 270

Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile
        275                 280
```

<210> 34

<211> 288

<212> PRT

<213> Homo sapiens

<400> 34

```
Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Ser Lys Asn Ser Ser
1               5                   10                  15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu
            20                  25                  30

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro
        35                  40                  45

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
    50                  55                  60

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp
65                  70                  75                  80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro
                85                  90                  95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly
            100                 105                 110
```

Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile
115 120 125

Pro Phe Thr Val Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn
130 135 140

Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145 150 155 160

Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala
180 185 190

Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser
195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr
210 215 220

Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr
245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser
260 265 270

Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu Ile Pro Phe
275 280 285

<210> 35

<211> 274

<212> PRT

<213> Homo sapiens

<400> 35

Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser
1 5 10 15

Val Gly Ser Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
20 25 30

Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Val Cys Thr His Arg Pro
35 40 45

Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu
50 55 60

Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg His Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr
85 90 95

Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg
100 105 110

Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Val
115 120 125

Leu Phe Thr Ile Asn Phe Thr Ile Thr Asn Gln Arg Tyr Glu Glu Asn
130 135 140

Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145 150 155 160

Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala
180 185 190

Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser
195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
210 215 220

His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Gln Asp Arg Asp Ser Leu
225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile
245 250 255

Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser
260 265 270

Leu Pro

<210> 36

<211> 386

<212> PRT

<213> Homo sapiens

<400> 36

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser
1 5 10 15

Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
20 25 30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu

35 40 45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp
65 70 75 80

Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro
85 90 95

Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu
100 105 110

Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Val
115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Ala
130 135 140

Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145 150 155 160

Gln Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala
180 185 190

Ala Thr Arg Val Asp Ala Ala Cys Thr Tyr Arg Pro Asp Pro Lys Ser
195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
210 215 220

His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Val Ser Leu
225 230 235 240

Tyr Val Asn Gly Phe Asn Pro Arg Ser Ser Val Pro Thr Thr Ser Thr
245 250 255

Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser
260 265 270

Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu
275 280 285

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro
290 295 300

Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu
305 310 315 320

Arg Pro Leu Phe Lys Asn Thr Ser Ile Gly Pro Leu Tyr Ser Ser Cys
325 330 335

Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Lys Ala Ala Thr Arg Val
340 345 350

Asp Ala Ile Cys Thr His His Pro Asp Pro Gln Ser Pro Gly Leu Asn
355 360 365

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Ile Thr
370 375 380

Glu Leu
385

<210> 37

<211> 438

<212> PRT

<213> Homo sapiens

<400> 37

Glu Arg Val Leu His Gly Leu Leu Thr Pro Leu Phe Lys Asn Thr Arg
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
20 25 30

Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val
35 40 45

Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
50 55 60

Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser Ser Val Pro
85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly
100 105 110

Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile
115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn
130 135 140

Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Phe Lys Pro Glu Lys His Glu Ala
180 185 190

Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly
195 200 205

Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr
210 215 220

Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu
225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile
245 250 255

Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser
260 265 270

Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu
275 280 285

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr
290 295 300

Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu
305 310 315 320

Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys
325 330 335

Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala Ala Thr Gly Val
340 345 350

Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn Pro Gly Leu Asp
355 360 365

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Arg Gly Ile Ile
370 375 380

Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu Tyr Val Asn Gly
385 390 395 400

Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr Pro Gly Thr Ser
405 410 415

Thr Val His Leu Gly Thr Ser Glu Ile His Pro Ser Leu Pro Arg Pro
420 425 430

Ile Val Pro Gly Pro Leu
435

<210> 38

<211> 420

<212> PRT

<213> Homo sapiens

<400> 38

Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys

1 5 10 15

Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn
20 25 30

Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser
35 40 45

Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg
50 55 60

Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr
65 70 75 80

Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr
85 90 95

Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro
100 105 110

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met
115 120 125

Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Ser Val Leu Gln
130 135 140

Gly Leu Leu Thr Pro Leu Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr
145 150 155 160

Ser Gly Cys Arg Leu Ile Ser Leu Arg Ser Glu Lys Asp Gly Ala Ala
165 170 175

Thr Gly Val Asp Ala Ile Cys Thr His His Leu Asn Pro Gln Ser Pro
180 185 190

Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu Ser Gln Met Thr Asn
195 200 205

Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr
210 215 220

Val Asn Gly Phe Thr His Arg Ser Leu Gly Leu Thr Thr Ser Thr Pro
225 230 235 240

Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Pro Val
245 250 255

Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn
260 265 270

Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His Pro Gly
275 280 285

Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu Gln Gly Leu Leu Arg
290 295 300

Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg
305 310 315 320

```
Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp
                325                 330                 335

Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg
            340                 345                 350

Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu
        355                 360                 365

Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe
    370                 375                 380

Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Pro Thr
385                 390                 395                 400

Val Asp Leu Gly Thr Ser Gly Thr Pro Val Ser Lys Pro Gly Pro Ser
                405                 410                 415

Ala Ala Ser Pro
            420

<210>  39

<211>  439

<212>  PRT

<213>  Homo sapiens


<400>  39

Glu Arg Val Leu Gln Gly Pro Leu Ser Pro Ile Phe Lys Asn Ser Ser
1               5                   10                  15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu
            20                  25                  30

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro
        35                  40                  45

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
    50                  55                  60

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp
65                  70                  75                  80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro
                85                  90                  95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly
            100                 105                 110

Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile
        115                 120                 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn
    130                 135                 140
```

```
Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu
145                 150                 155                 160

Gln Gly Leu Leu Asn Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu
                165                 170                 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala
            180                 185                 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg
        195                 200                 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Cys Glu Leu Ser Gln Leu Thr
    210                 215                 220

His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu
225                 230                 235                 240

Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr
                245                 250                 255

Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser
            260                 265                 270

Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu
        275                 280                 285

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr
    290                 295                 300

Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu
305                 310                 315                 320

Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys
                325                 330                 335

Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val
            340                 345                 350

Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp
        355                 360                 365

Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr
    370                 375                 380

Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly
385                 390                 395                 400

Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser
                405                 410                 415

Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His
            420                 425                 430

Thr Ala Pro Gly Pro Leu Leu
        435
```

<210> 40

<211> 424

<212> PRT

<213> Homo sapiens

<400> 40

Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg
1 5 10 15

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Tyr Thr His
20 25 30

Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp
35 40 45

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr
50 55 60

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr Ser
65 70 75 80

Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr
85 90 95

Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu
100 105 110

Leu Ile Pro Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu
115 120 125

Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Met Glu Arg
130 135 140

Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly
145 150 155 160

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp
165 170 175

Gly Val Ala Thr Arg Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro
180 185 190

Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp Glu Leu Ser Gln
195 200 205

Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp
210 215 220

Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro Thr Thr
225 230 235 240

Ser Thr Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu Thr Pro
245 250 255

Ser Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu Pro Phe
260 265 270

Thr Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp Met His
275 280 285

Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly
290 295 300

Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser
305 310 315 320

Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr
325 330 335

Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly
340 345 350

Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser
355 360 365

Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val
370 375 380

Asn Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly
385 390 395 400

Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro
405 410 415

Gly His Thr Ala Pro Val Pro Leu
420

<210> 41

<211> 418

<212> PRT

<213> Homo sapiens

<400> 41

Thr Leu Leu Arg Pro Lys Lys Asp Gly Val Ala Thr Gly Val Asp Ala
1 5 10 15

Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu
20 25 30

Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu
35 40 45

Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr
50 55 60

His Gln Ser Ser Val Ser Thr Thr Ser Thr Pro Gly Thr Ser Thr Val

65 70 75 80

Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser Leu Ser Ser Pro Thr Ile
85 90 95

Met Ala Ala Gly Pro Leu Leu Ile Pro Phe Thr Ile Asn Phe Thr Ile
100 105 110

Thr Asn Leu Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys
115 120 125

Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Met Pro Leu Phe
130 135 140

Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly Cys Arg Leu Thr Leu
145 150 155 160

Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Val Cys
165 170 175

Thr His Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu
180 185 190

Tyr Trp Lys Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro
195 200 205

Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg
210 215 220

Ser Ser Met Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val
225 230 235 240

Gly Thr Ser Gly Thr Pro Ser Ser Ser Pro Ser Pro Thr Thr Ala Gly
245 250 255

Pro Leu Leu Met Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln
260 265 270

Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met
275 280 285

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
290 295 300

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
305 310 315 320

Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu
325 330 335

Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
340 345 350

Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp
355 360 365

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro
370 375 380

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly
385 390 395 400

Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Ile
405 410 415

Pro Phe

<210> 42

<211> 443

<212> PRT

<213> Homo sapiens

<400> 42

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
20 25 30

Lys Asp Gly Val Ala Thr Arg Val Asp Ala Ile Cys Thr His Arg Pro
35 40 45

Asp Pro Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp Glu Leu
50 55 60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro
85 90 95

Thr Thr Ser Thr Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu
100 105 110

Thr Pro Ser Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu
115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp
130 135 140

Met His Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145 150 155 160

Gln Gly Leu Leu Met Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala
180 185 190

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Ser Glu
195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
    210   215   220

Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu
225   230   235   240

Tyr Val Asn Gly Phe Thr His Ser Gly Val Leu Cys Pro Pro Pro Ser
                245   250   255

Ile Leu Gly Ile Phe Thr Val Gln Pro Glu Thr Phe Glu Thr Pro Ser
            260   265   270

Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu Pro Phe Thr
        275   280   285

Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp Met His Arg
    290   295   300

Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
305   310   315   320

Leu Met Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
                325   330   335

Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly
            340   345   350

Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly Leu
        355   360   365

Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile
    370   375   380

Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn
385   390   395   400

Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly Thr
                405   410   415

Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly
            420   425   430

His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe
        435   440

<210> 43

<211> 442

<212> PRT

<213> Homo sapiens

<400> 43

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser

1 5 10 15

Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu
20 25 30

Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro
35 40 45

Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
50 55 60

Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro
85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly
100 105 110

Thr Pro Ser Ser Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met
115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
130 135 140

Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu
145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala
180 185 190

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser
195 200 205

Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr
210 215 220

Asn Asp Ile Glu Glu Val Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Ser Phe Val Ala Pro Thr Ser Thr
245 250 255

Leu Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser
260 265 270

Leu Pro Ser Pro Thr Thr Gly Val Pro Leu Leu Ile Pro Phe Thr Leu
275 280 285

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His Pro
290 295 300

Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu Gln Gly Leu Leu
305 310 315 320

Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly Cys
325 330 335

Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Arg Val
340 345 350

Val Ala Val Cys Thr His Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp
355 360 365

Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr His Gly Ile Thr
370 375 380

Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Leu Tyr Val Asn Gly
385 390 395 400

Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr Pro Asp Thr Ser
405 410 415

Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser Leu Ser Gly Pro
420 425 430

Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe
435 440

<210> 44

<211> 442

<212> PRT

<213> Homo sapiens

<400> 44

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
20 25 30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu
35 40 45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp
65 70 75 80

Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro
85 90 95

Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu
100 105 110

Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile
115 120 125

```
Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn
    130                 135                 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu
145                 150                 155                 160

Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu
                165                 170                 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Ser Ser
            180                 185                 190

Thr Met Ala Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu Asp
        195                 200                 205

Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn Leu Thr
    210                 215                 220

Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
225                 230                 235                 240

Tyr Val Asn Gly Phe Thr His Arg Ser Phe Met Pro Thr Thr Ser Thr
                245                 250                 255

Leu Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser
            260                 265                 270

Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met Pro Phe Thr Leu
        275                 280                 285

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr
    290                 295                 300

Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu Gln Gly Leu Leu
305                 310                 315                 320

Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys
                325                 330                 335

Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Gly Val
            340                 345                 350

Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn
        355                 360                 365

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu
    370                 375                 380

Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
385                 390                 395                 400

Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr Pro Gly Thr Ser
                405                 410                 415

Thr Val Asp Pro Arg Thr Ser Gly Thr Pro Ser Ser Leu Ser Ser Pro
            420                 425                 430

Thr Ile Met Ala Ala Gly Pro Leu Leu Ile
```

435 440

<210> 45

<211> 379

<212> PRT

<213> Homo sapiens

<400> 45

```
Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser
1               5                   10                  15

Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
            20                  25                  30

Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser His Arg Leu
        35                  40                  45

Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu
    50                  55                  60

Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp
65                  70                  75                  80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala
                85                  90                  95

Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly
            100                 105                 110

Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala Val Pro Leu Leu Ile
        115                 120                 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys Tyr Glu Glu Asp
    130                 135                 140

Met His Cys Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145                 150                 155                 160

Gln Ser Leu Phe Gly Pro Met Phe Lys Asn Thr Ser Val Gly Pro Leu
                165                 170                 175

Tyr Ser Gly Cys Arg Leu Thr Leu Phe Arg Ser Glu Lys Asp Gly Ala
            180                 185                 190

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser
        195                 200                 205

Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
    210                 215                 220

Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
225                 230                 235                 240
```

Tyr Val Asn Gly Phe Thr His Gln Thr Ser Ala Pro Asn Thr Ser Thr
245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser
260 265 270

Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu Leu Val Pro Phe Thr Leu
275 280 285

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr
290 295 300

Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu Gln Gly Leu Leu
305 310 315 320

Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys
325 330 335

Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Val
340 345 350

Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn
355 360 365

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu
370 375

<210> 46

<211> 439

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> (1)..(439)

<223> Any "X" = any amino acid

<400> 46

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
20 25 30

Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu
35 40 45

Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu

50 55 60

Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro
85 90 95

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly
100 105 110

Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Ile
115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn
130 135 140

Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu
145 150 155 160

Gln Gly Cys Leu Val Pro Cys Ser Arg Asn Thr Asn Val Gly Leu Leu
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Xaa Xaa Xaa Xaa Xaa Xaa Xaa
180 185 190

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
195 200 205

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
210 215 220

Xaa Xaa Xaa Xaa Xaa Xaa Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala Pro Thr Ser Thr
245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser
260 265 270

Leu Pro Ser Pro Thr Thr Val Pro Leu Leu Val Pro Phe Thr Leu Asn
275 280 285

Phe Thr Ile Thr Asn Leu Gln Tyr Gly Glu Asp Met Arg His Pro Gly
290 295 300

Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly
305 310 315 320

Pro Leu Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg
325 330 335

Leu Ile Ser Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp
340 345 350

Ala Ile Cys Thr His His Leu Asn Pro Gln Ser Pro Gly Leu Asp Arg
355 360 365

Glu Gln Leu Tyr Trp Gln Leu Ser Gln Val Thr Asn Gly Ile Lys Glu
370 375 380

Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe
385 390 395 400

Thr His Arg Ser Ser Gly Leu Thr Thr Ser Thr Pro Trp Thr Ser Thr
405 410 415

Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Pro Val Pro Ser Pro Thr
420 425 430

Thr Ala Gly Pro Leu Leu Ile
435

<210> 47

<211> 1366

<212> PRT

<213> Homo sapiens

<400> 47

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser
1 5 10 15

Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu
20 25 30

Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro
35 40 45

Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
50 55 60

Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro
85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly
100 105 110

Thr Pro Ser Ser Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met
115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
130 135 140

Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu
145 150 155 160

Gln Gly Pro Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala
180 185 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg
195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
210 215 220

His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu
225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr
245 250 255

Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser
260 265 270

Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu
275 280 285

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His Pro
290 295 300

Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu Gln Gly Leu Leu
305 310 315 320

Asn Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys
325 330 335

Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Met
340 345 350

Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp
355 360 365

Arg Glu Gln Leu Tyr Cys Glu Leu Ser Gln Leu Thr His Asn Ile Thr
370 375 380

Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly
385 390 395 400

Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser
405 410 415

Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His
420 425 430

Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile
435 440 445

Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys
450 455 460

Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe
465 470 475 480

Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu

485 490 495

Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys
500 505 510

Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu
515 520 525

Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro
530 535 540

Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg
545 550 555 560

Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu
565 570 575

Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly
580 585 590

Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln
595 600 605

Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr
610 615 620

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
625 630 635 640

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
645 650 655

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu
660 665 670

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
675 680 685

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp
690 695 700

Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro
705 710 715 720

Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu
725 730 735

Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile
740 745 750

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn
755 760 765

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu
770 775 780

Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu
785 790 795 800

Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu Lys Asp Ser Ser
805 810 815

Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu Asp
820 825 830

Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn Leu Thr
835 840 845

Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
850 855 860

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr
865 870 875 880

Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser
885 890 895

Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met Pro Phe Thr Leu
900 905 910

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr
915 920 925

Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu Gln Gly Leu Leu
930 935 940

Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys
945 950 955 960

Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Gly Val
965 970 975

Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn
980 985 990

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu
995 1000 1005

Glu Val Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn
1010 1015 1020

Gly Phe Thr His Arg Ser Phe Val Ala Pro Thr Ser Thr Leu Gly
1025 1030 1035

Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu
1040 1045 1050

Pro Ser Pro Thr Thr Gly Val Pro Leu Leu Ile Pro Phe Thr Leu
1055 1060 1065

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His
1070 1075 1080

Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu Gln Gly
1085 1090 1095

Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Ser Leu Tyr
1100 1105 1110

Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala
1115 1120 1125

Ala Thr Arg Val Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys
1130 1135 1140

Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln
1145 1150 1155

Leu Thr His Gly Ile Ile Glu Leu Gly Pro Tyr Thr Leu Asp Arg
1160 1165 1170

His Ser Phe Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr
1175 1180 1185

Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser
1190 1195 1200

Arg Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu
1205 1210 1215

Leu Val Leu Phe Thr Ile Asn Phe Thr Ile Thr Asn Gln Arg Tyr
1220 1225 1230

Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr
1235 1240 1245

Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr
1250 1255 1260

Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg
1265 1270 1275

Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr
1280 1285 1290

Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu
1295 1300 1305

Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly
1310 1315 1320

Pro Tyr Thr Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr
1325 1330 1335

His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala
1340 1345 1350

Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro
1355 1360 1365

<210> 48

<211> 1148

<212> PRT

<213> Homo sapiens

<400> 48

```
Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly Cys
1               5                   10                  15

Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Arg Val
            20                  25                  30

Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp
        35                  40                  45

Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr His Gly Ile Ile
    50                  55                  60

Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Phe Tyr Val Asn Gly
65                  70                  75                  80

Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr Pro Asp Thr Ser
                85                  90                  95

Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser Leu Ser Gly Pro
            100                 105                 110

Thr Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Phe Thr Ile
        115                 120                 125

Thr Asn Gln Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys
    130                 135                 140

Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe
145                 150                 155                 160

Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu
                165                 170                 175

Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys
            180                 185                 190

Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu
        195                 200                 205

Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro
    210                 215                 220

Tyr Thr Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg
225                 230                 235                 240

Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu
                245                 250                 255

Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly Pro Ser Ala Ala Ser
            260                 265                 270

Pro Leu Leu Val Leu Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Arg
        275                 280                 285
```

Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr
290 295 300

Glu Arg Val Leu Gln Gly Leu Leu Arg Ser Leu Phe Lys Ser Thr Ser
305 310 315 320

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
325 330 335

Lys Asp Gly Thr Ala Thr Gly Val Asp Ala Ile Cys Thr His His Pro
340 345 350

Asp Pro Lys Ser Pro Arg Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
355 360 365

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly His Tyr Ala Leu Asp
370 375 380

Asn Asp Ser Leu Phe Val Asn Gly Phe Thr His Arg Ser Ser Val Ser
385 390 395 400

Thr Thr Ser Thr Pro Gly Thr Pro Thr Val Tyr Leu Gly Ala Ser Lys
405 410 415

Thr Pro Ala Ser Ile Phe Gly Pro Ser Ala Ala Ser His Leu Leu Ile
420 425 430

Leu Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn
435 440 445

Met Trp Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln
450 455 460

Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr
465 470 475 480

Ser Gly Ser Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Glu Ala
485 490 495

Thr Gly Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro Thr Gly Pro
500 505 510

Gly Leu Asp Arg Glu Gln Leu Tyr Leu Glu Leu Ser Gln Leu Thr His
515 520 525

Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr
530 535 540

Val Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Thr Gly
545 550 555 560

Val Val Ser Glu Glu Pro Phe Thr Leu Asn Phe Thr Ile Asn Asn Leu
565 570 575

Arg Tyr Met Ala Asp Met Gly Gln Pro Gly Ser Leu Lys Phe Asn Ile
580 585 590

Thr Asp Asn Val Met Lys His Leu Leu Ser Pro Leu Phe Gln Arg Ser

595 600 605

Ser Leu Gly Ala Arg Tyr Thr Gly Cys Arg Val Ile Ala Leu Arg Ser
610 615 620

Val Lys Asn Gly Ala Glu Thr Arg Val Asp Leu Leu Cys Thr Tyr Leu
625 630 635 640

Gln Pro Leu Ser Gly Pro Gly Leu Pro Ile Lys Gln Val Phe His Glu
645 650 655

Leu Ser Gln Gln Thr His Gly Ile Thr Arg Leu Gly Pro Tyr Ser Leu
660 665 670

Asp Lys Asp Ser Leu Tyr Leu Asn Gly Tyr Asn Glu Pro Gly Leu Asp
675 680 685

Glu Pro Pro Thr Thr Pro Lys Pro Ala Thr Thr Phe Leu Pro Pro Leu
690 695 700

Ser Glu Ala Thr Thr Ala Met Gly Tyr His Leu Lys Thr Leu Thr Leu
705 710 715 720

Asn Phe Thr Ile Ser Asn Leu Gln Tyr Ser Pro Asp Met Gly Lys Gly
725 730 735

Ser Ala Thr Phe Asn Ser Thr Glu Gly Val Leu Gln His Leu Leu Arg
740 745 750

Pro Leu Phe Gln Lys Ser Ser Met Gly Pro Phe Tyr Leu Gly Cys Gln
755 760 765

Leu Ile Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp
770 775 780

Thr Thr Cys Thr Tyr His Pro Asp Pro Val Gly Pro Gly Leu Asp Ile
785 790 795 800

Gln Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Val Thr Gln
805 810 815

Leu Gly Phe Tyr Val Leu Asp Arg Asp Ser Leu Phe Ile Asn Gly Tyr
820 825 830

Ala Pro Gln Asn Leu Ser Ile Arg Gly Glu Tyr Gln Ile Asn Phe His
835 840 845

Ile Val Asn Trp Asn Leu Ser Asn Pro Asp Pro Thr Ser Ser Glu Tyr
850 855 860

Ile Thr Leu Leu Arg Asp Ile Gln Asp Lys Val Thr Thr Leu Tyr Lys
865 870 875 880

Gly Ser Gln Leu His Asp Thr Phe Arg Phe Cys Leu Val Thr Asn Leu
885 890 895

Thr Met Asp Ser Val Leu Val Thr Val Lys Ala Leu Phe Ser Ser Asn
900 905 910

Leu Asp Pro Ser Leu Val Glu Gln Val Phe Leu Asp Lys Thr Leu Asn
915 920 925

Ala Ser Phe His Trp Leu Gly Ser Thr Tyr Gln Leu Val Asp Ile His
930 935 940

Val Thr Glu Met Glu Ser Ser Val Tyr Gln Pro Thr Ser Ser Ser Ser
945 950 955 960

Thr Gln His Phe Tyr Leu Asn Phe Thr Ile Thr Asn Leu Pro Tyr Ser
965 970 975

Gln Asp Lys Ala Gln Pro Gly Thr Thr Asn Tyr Gln Arg Asn Lys Arg
980 985 990

Asn Ile Glu Asp Ala Leu Asn Gln Leu Phe Arg Asn Ser Ser Ile Lys
995 1000 1005

Ser Tyr Phe Ser Asp Cys Gln Val Ser Thr Phe Arg Ser Val Pro
1010 1015 1020

Asn Arg His His Thr Gly Val Asp Ser Leu Cys Asn Phe Ser Pro
1025 1030 1035

Leu Ala Arg Arg Val Asp Arg Val Ala Ile Tyr Glu Glu Phe Leu
1040 1045 1050

Arg Met Thr Arg Asn Gly Thr Gln Leu Gln Asn Phe Thr Leu Asp
1055 1060 1065

Arg Ser Ser Val Leu Val Asp Gly Tyr Ser Pro Asn Arg Asn Glu
1070 1075 1080

Pro Leu Thr Gly Asn Ser Asp Leu Pro Phe Trp Ala Val Ile Leu
1085 1090 1095

Ile Gly Leu Ala Gly Leu Leu Gly Leu Ile Thr Cys Leu Ile Cys
1100 1105 1110

Gly Val Leu Val Thr Thr Arg Arg Arg Lys Lys Glu Gly Glu Tyr
1115 1120 1125

Asn Val Gln Gln Gln Cys Pro Gly Tyr Tyr Gln Ser His Leu Asp
1130 1135 1140

Leu Glu Asp Leu Gln
1145

<210> 49

<211> 6833

<212> DNA

<213> Homo sapiens

<400> 49

gagagggttc tgcagggtct gctcaaaccc ttgttcagga atagcagtct ggaatacctc 60
tattcaggct gcagactagc ctcactcagg ccagagaagg atagctcagc catggcagtg 120
gatgccatct gcacacatcg ccctgaccct gaagacctcg gactggacag agagcgactg 180
tactgggagc tgagcaatct gacaaatggc atccaggagc tgggccccta caccctggac 240
cggaacagtc tctatgtcaa tggtttcacc catcgaagct ctatgcccac caccagcact 300
cctgggacct ccacagtgga tgtgggaacc tcagggactc catcctccag ccccagcccc 360
acgactgctg gccctctcct gatgccgttc accctcaact tcaccatcac caacctgcag 420
tacgaggagg acatgcgtcg cactggctcc aggaagttca acaccatgga gagggttctg 480
cagggtccgc ttagtcccat attcaagaac tccagtgttg gccctctgta ctctggctgc 540
agactgacct ctctcaggcc cgagaaggat ggggcagcaa ctggaatgga tgctgtctgc 600
ctctaccacc ctaatcccaa aagacctggg ctggacagag agcagctgta ctgggagcta 660
agccagctga cccacaacat cactgagctg ggcccctaca gcctggacag ggacagtctc 720
tatgtcaatg gtttcaccca tcagaactct gtgcccacca ccagtactcc tgggacctcc 780
acagtgtact gggcaaccac tgggactcca tcctccttcc ccggccacac agagcctggc 840
cctctcctga taccattcac gctcaacttc accatcacta acctacagta tgaggagaac 900
atgggtcacc ctggctccag gaagttcaac atcacggaga gggttctgca gggtctgctt 960
aatcccattt tcaagaactc cagtgttggc cctctgtact ctggctgcag actgacctct 1020
ctcaggcccg agaaggatgg ggcagcaact ggaatggatg ctgtctgcct ctaccacccct 1080
aatcccaaaa gacctgggct ggacagagag cagctgtact gcgagctaag ccagctgacc 1140
cacaacatca ctgagctggg cccctacagc ttggacaggg acagtcttta tgtcaatggt 1200
ttcacccatc agaactctgt gcccaccacc agtactcctg ggacctccac agtgtactgg 1260
gcaaccactg ggactccatc ctccttcccc ggccacacag agcctggccc tctcctgata 1320
ccattcaccc tcaacttcac catcaccaac ctgcagtacg aggaggacat gcgtcgcact 1380
ggctccagga agttcaacac catggagagg gttctgcagg gtctgctcaa gcccttgttc 1440
aagagcacca gcgttggccc tctgtactct ggctgcagac tgaccttgct cagacctgag 1500
aaacatgggg cagccactgg agtggacgcc atctgcaccc tccgccttga tcccactggt 1560
cctggactgg acagagagcg gctatactgg gagctgagcc agctgaccaa cagcgttaca 1620
gagctgggcc cctacaccct ggacagggac agtctctatg tcaatggctt cacccatcgg 1680
agctctgtgc caaccaccag tattcctggg acctctgcag tgcacctgga aacctctggg 1740
actccagcct ccctccctgg ccacacagcc cctggccctc tcctggtgcc attcaccctc 1800

aacttcacta tcaccaacct gcagtatgag gaggacatgc gtcaccctgg ttccaggaag 1860
ttcaacacca cggagagagt cctgcagggt ctgctcaagc ccttgttcaa gagcaccagt 1920
gttggccctc tgtactctgg ctgcagactg accttgctca ggcctgaaaa acgtggggca 1980
gccaccggcg tggacaccat ctgcactcac cgccttgacc ctctaaaccc tggactggac 2040
agagagcagc tatactggga gctgagcaaa ctgacccgtg gcatcatcga gctgggcccc 2100
tacctcctgg acagaggcag tctctatgtc aatggtttca cccatcggaa ctttgtgccc 2160
atcaccagca ctcctgggac ctccacagta cacctaggaa cctctgaaac tccatcctcc 2220
ctacctagac ccatagtgcc tggccctctc ctgataccat tcacactcaa cttcaccatc 2280
actaacctac agtatgagga gaacatgggt caccctggct ccaggaagtt caacatcacg 2340
gagagggttc tgcagggtct gctcaaaccc ttgttcagga atagcagtct ggaatacctc 2400
tattcaggct gcagactaac ctcactcagg ccagagaagg atagctcaac catggcagtg 2460
gatgccatct gcacacatcg ccctgaccct gaagacctcg gactggacag agagcgactg 2520
tactgggagc tgagcaatct gacaaatggc atccaggagc tgggccccta caccctggac 2580
cggaacagtc tctatgtcaa tggtttcacc catcgaagct ctatgcccac caccagcact 2640
cctgggacct ccacagtgga tgtgggaacc tcagggactc catcctccag ccccagcccc 2700
acgactgctg gccctctcct gatgccgttc accctcaact tcaccatcac caacctgcag 2760
tacgaggagg acatgcgtcg cactggctcc aggaagttca acaccatgga gagtgtcctg 2820
cagggtctgc tcaagccctt gttcaagaac accagtgttg gccctctgta ctctggctgc 2880
agattgacct tgctcaggcc caagaaagat ggggcagcca ctggagtgga tgccatctgc 2940
acccaccgcc ttgaccccaa aagccctgga ctcaacaggg agcagctgta ctgggagtta 3000
agcaaactga ccaatgacat tgaagaggtg ggcccctaca ccttggacag gaacagtctc 3060
tatgtcaatg gtttcaccca tcggagcttt gtggccccca ccagcactct tgggacctcc 3120
acagtggacc ttgggacctc agggactcca tcctccctcc ccagccccac aacaggtgtt 3180
cctctcctga taccattcac actcaacttc accatcacta acctacagta tgaggagaac 3240
atgggtcacc ctggctccag gaagttcaac atcatggaga gggttctgca gggtctgctt 3300
atgcccttgt tcaagaacac cagtgtcagc tctctgtact ctggttgcag actgaccttg 3360
ctcaggcctg agaaggatgg ggcagccacc agagtggttg ctgtctgcac ccatcgtcct 3420
gaccccaaaa gccctggact ggacagagag cggctgtact ggaagctgag ccagctgacc 3480
cacggcatca ctgagctggg cccctacacc ctggacaggc acagtctcta tgtcaatggt 3540

ttcacccatc agagctctat gacgaccacc agaactcctg atacctccac aatgcacctg 3600
gcaacctcga gaactccagc ctccctgtct ggacctacga ccgccagccc tctcctgata 3660
ccattcacaa ttaacttcac catcactaac ctgcggtatg aggagaacat gcatcaccct 3720
ggctctagaa agtttaacac cacggagaga gtccttcagg gtctgctcag gcctgtgttc 3780
aagaacacca gtgttggccc tctgtactct ggctgcagac tgaccttgct caggcccaag 3840
aaggatgggg cagccaccaa agtggatgcc atctgcacct accgccctga tcccaaaagc 3900
cctggactgg acagagagca gctatactgg gagctgagcc agctaaccca cagcatcact 3960
gagctgggcc cctacaccct ggacagggac agtctctatg tcaatggttt cacacagcgg 4020
agctctgtgc ccaccactag cattcctggg acccccacag tggacctggg aacatctggg 4080
actccagttt ctaaacctgg tccctcggct gccagccctc tcctggtgct attcactctc 4140
aacttcacca tcaccaacct gcggtatgag gagaacatgc agcaccctgg ctccaggaag 4200
ttcaacacca cggagagggt ccttcagggc ctgctcaggt ccctgttcaa gagcaccagt 4260
gttggccctc tgtactctgg ctgcagactg actttgctca ggcctgaaaa ggatgggaca 4320
gccactggag tggatgccat ctgcacccac caccctgacc ccaaaagccc taggctggac 4380
agagagcagc tgtattggga gctgagccag ctgacccaca atatcactga gctgggccac 4440
tatgccctgg acaacgacag cctctttgtc aatggtttca ctcatcggag ctctgtgtcc 4500
accaccagca ctcctgggac ccccacagtg tatctgggag catctaagac tccagcctcg 4560
atatttggcc cttcagctgc cagccatctc ctgatactat tcaccctcaa cttcaccatc 4620
actaacctgc ggtatgagga gaacatgtgg cctggctcca ggaagttcaa cactacagag 4680
agggtccttc agggcctgct aaggcccttg ttcaagaaca ccagtgttgg ccctctgtac 4740
tctggctcca ggctgacctt gctcaggcca gagaaagatg gggaagccac cggagtggat 4800
gccatctgca cccaccgccc tgaccccaca ggccctgggc tggacagaga gcagctgtat 4860
ttggagctga gccagctgac ccacagcatc actgagctgg gcccctacac actggacagg 4920
gacagtctct atgtcaatgg tttcacccat cggagctctg tacccaccac cagcaccggg 4980
gtggtcagcg aggagccatt cacactgaac ttcaccatca acaacctgcg ctacatggcg 5040
gacatgggcc aacccggctc cctcaagttc aacatcacag acaacgtcat gaagcacctg 5100
ctcagtcctt tgttccagag gagcagcctg ggtgcacggt acacaggctg cagggtcatc 5160
gcactaaggt ctgtgaagaa cggtgctgag acacgggtgg acctcctctg cacctacctg 5220
cagcccctca gcggcccagg tctgcctatc aagcaggtgt tccatgagct gagccagcag 5280
acccatggca tcacccggct gggcccctac tctctggaca aagacagcct ctaccttaac 5340

ggttacaatg aacctggtct agatgagcct cctacaactc ccaagccagc caccacattc 5400

ctgcctcctc tgtcagaagc cacaacagcc atggggtacc acctgaagac cctcacactc 5460

aacttcacca tctccaatct ccagtattca ccagatatgg gcaagggctc agctacattc 5520

aactccaccg agggggtcct tcagcacctg ctcagaccct tgttccagaa gagcagcatg 5580

ggccccttct acttgggttg ccaactgatc tccctcaggc ctgagaagga tggggcagcc 5640

actggtgtgg acaccacctg cacctaccac cctgaccctg tgggccccgg gctggacata 5700

cagcagcttt actgggagct gagtcagctg acccatggtg tcacccaact gggcttctat 5760

gtcctggaca gggatagcct cttcatcaat ggctatgcac cccagaattt atcaatccgg 5820

ggcgagtacc agataaattt ccacattgtc aactggaacc tcagtaatcc agaccccaca 5880

tcctcagagt acatcaccct gctgagggac atccaggaca aggtcaccac actctacaaa 5940

ggcagtcaac tacatgacac attccgcttc tgcctggtca ccaacttgac gatggactcc 6000

gtgttggtca ctgtcaaggc attgttctcc tccaatttgg accccagcct ggtggagcaa 6060

gtctttctag ataagaccct gaatgcctca ttccattggc tgggctccac ctaccagttg 6120

gtggacatcc atgtgacaga aatggagtca tcagtttatc aaccaacaag cagctccagc 6180

acccagcact tctacccgaa tttcaccatc accaacctac catattccca ggacaaagcc 6240

cagccaggca ccaccaatta ccagaggaac aaaaggaata ttgaggatgc gctcaaccaa 6300

ctcttccgaa acagcagcat caagagttat ttttctgact gtcaagtttc aacattcagg 6360

tctgtcccca acaggcacca caccggggtg gactccctgt gtaacttctc gccactggct 6420

cggagagtag acagagttgc catctatgag gaatttctgc ggatgacccg gaatggtacc 6480

cagctgcaga acttcaccct ggacaggagc agtgtccttg tggatgggta ttctcccaac 6540

agaaatgagc ccttaactgg gaattctgac cttcccttct gggctgtcat cttcatcggc 6600

ttggcaggac tcctgggact catcacatgc ctgatctgcg gtgtcctggt gaccacccgc 6660

cggcggaaga aggaaggaga atacaacgtc cagcaacagt gcccaggcta ctaccagtca 6720

cacctagacc tggaggatct gcaatgactg gaacttgccg gtgcctgggg tgcctttccc 6780

ccagccaggg tccaaagaag cttggctggg gcagaaataa accatattgg tcg 6833

<210> 50

<211> 2248

<212> PRT

<213> Homo sapiens

<400> 50

```
Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser
1               5                   10                  15

Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu
            20                  25                  30

Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro
        35                  40                  45

Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
    50                  55                  60

Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp
65                  70                  75                  80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro
                85                  90                  95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly
            100                 105                 110

Thr Pro Ser Ser Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met
        115                 120                 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
    130                 135                 140

Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu
145                 150                 155                 160

Gln Gly Pro Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu
                165                 170                 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala
            180                 185                 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg
        195                 200                 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
    210                 215                 220

His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu
225                 230                 235                 240

Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr
                245                 250                 255

Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser
            260                 265                 270

Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu
        275                 280                 285
```

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His Pro
290 295 300

Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu Gln Gly Leu Leu
305 310 315 320

Asn Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys
325 330 335

Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Met
340 345 350

Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp
355 360 365

Arg Glu Gln Leu Tyr Cys Glu Leu Ser Gln Leu Thr His Asn Ile Thr
370 375 380

Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly
385 390 395 400

Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser
405 410 415

Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His
420 425 430

Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile
435 440 445

Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys
450 455 460

Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe
465 470 475 480

Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu
485 490 495

Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys
500 505 510

Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu
515 520 525

Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro
530 535 540

Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg
545 550 555 560

Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu
565 570 575

Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly
580 585 590

Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln

595 600 605

Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr
610 615 620

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
625 630 635 640

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
645 650 655

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu
660 665 670

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
675 680 685

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp
690 695 700

Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro
705 710 715 720

Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu
725 730 735

Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile
740 745 750

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn
755 760 765

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu
770 775 780

Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu
785 790 795 800

Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu Lys Asp Ser Ser
805 810 815

Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu Asp
820 825 830

Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn Leu Thr
835 840 845

Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
850 855 860

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr
865 870 875 880

Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser
885 890 895

Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met Pro Phe Thr Leu
900 905 910

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr
915 920 925

Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu Gln Gly Leu Leu
930 935 940

Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys
945 950 955 960

Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Gly Val
965 970 975

Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn
980 985 990

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu
995 1000 1005

Glu Val Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn
1010 1015 1020

Gly Phe Thr His Arg Ser Phe Val Ala Pro Thr Ser Thr Leu Gly
1025 1030 1035

Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu
1040 1045 1050

Pro Ser Pro Thr Thr Gly Val Pro Leu Leu Ile Pro Phe Thr Leu
1055 1060 1065

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His
1070 1075 1080

Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu Gln Gly
1085 1090 1095

Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Ser Leu Tyr
1100 1105 1110

Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala
1115 1120 1125

Ala Thr Arg Val Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys
1130 1135 1140

Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln
1145 1150 1155

Leu Thr His Gly Ile Ile Glu Leu Gly Pro Tyr Thr Leu Asp Arg
1160 1165 1170

His Ser Phe Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr
1175 1180 1185

Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser
1190 1195 1200

Arg Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu
1205 1210 1215

Leu Val Leu Phe Thr Ile Asn Phe Thr Ile Thr Asn Gln Arg Tyr
1220 1225 1230

Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr
1235 1240 1245

Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr
1250 1255 1260

Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg
1265 1270 1275

Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr
1280 1285 1290

Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu
1295 1300 1305

Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly
1310 1315 1320

Pro Tyr Thr Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr
1325 1330 1335

His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala
1340 1345 1350

Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly Pro
1355 1360 1365

Ser Ala Ala Ser Pro Leu Leu Val Leu Phe Thr Leu Asn Phe Thr
1370 1375 1380

Ile Thr Asn Leu Arg Tyr Glu Glu Asn Met Gln His Pro Gly Ser
1385 1390 1395

Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Arg
1400 1405 1410

Ser Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys
1415 1420 1425

Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Thr Ala Thr Gly
1430 1435 1440

Val Asp Ala Ile Cys Thr His His Pro Asp Pro Lys Ser Pro Arg
1445 1450 1455

Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His
1460 1465 1470

Asn Ile Thr Glu Leu Gly His Tyr Ala Leu Asp Asn Asp Ser Leu
1475 1480 1485

Phe Val Asn Gly Phe Thr His Arg Ser Ser Val Ser Thr Thr Ser
1490 1495 1500

Thr Pro Gly Thr Pro Thr Val Tyr Leu Gly Ala Ser Lys Thr Pro

1505 1510 1515

Ala Ser Ile Phe Gly Pro Ser Ala Ala Ser His Leu Leu Ile Leu
1520 1525 1530

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn
1535 1540 1545

Met Trp Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
1550 1555 1560

Gln Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser Val Gly Pro
1565 1570 1575

Leu Tyr Ser Gly Ser Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp
1580 1585 1590

Gly Glu Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Pro Asp
1595 1600 1605

Pro Thr Gly Pro Gly Leu Asp Arg Glu Gln Leu Tyr Leu Glu Leu
1610 1615 1620

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu
1625 1630 1635

Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser
1640 1645 1650

Val Pro Thr Thr Ser Thr Gly Val Val Ser Glu Glu Pro Phe Thr
1655 1660 1665

Leu Asn Phe Thr Ile Asn Asn Leu Arg Tyr Met Ala Asp Met Gly
1670 1675 1680

Gln Pro Gly Ser Leu Lys Phe Asn Ile Thr Asp Asn Val Met Lys
1685 1690 1695

His Leu Leu Ser Pro Leu Phe Gln Arg Ser Ser Leu Gly Ala Arg
1700 1705 1710

Tyr Thr Gly Cys Arg Val Ile Ala Leu Arg Ser Val Lys Asn Gly
1715 1720 1725

Ala Glu Thr Arg Val Asp Leu Leu Cys Thr Tyr Leu Gln Pro Leu
1730 1735 1740

Ser Gly Pro Gly Leu Pro Ile Lys Gln Val Phe His Glu Leu Ser
1745 1750 1755

Gln Gln Thr His Gly Ile Thr Arg Leu Gly Pro Tyr Ser Leu Asp
1760 1765 1770

Lys Asp Ser Leu Tyr Leu Asn Gly Tyr Asn Glu Pro Gly Leu Asp
1775 1780 1785

Glu Pro Pro Thr Thr Pro Lys Pro Ala Thr Thr Phe Leu Pro Pro
1790 1795 1800

Leu Ser Glu Ala Thr Thr Ala Met Gly Tyr His Leu Lys Thr Leu
1805 1810 1815

Thr Leu Asn Phe Thr Ile Ser Asn Leu Gln Tyr Ser Pro Asp Met
1820 1825 1830

Gly Lys Gly Ser Ala Thr Phe Asn Ser Thr Glu Gly Val Leu Gln
1835 1840 1845

His Leu Leu Arg Pro Leu Phe Gln Lys Ser Ser Met Gly Pro Phe
1850 1855 1860

Tyr Leu Gly Cys Gln Leu Ile Ser Leu Arg Pro Glu Lys Asp Gly
1865 1870 1875

Ala Ala Thr Gly Val Asp Thr Thr Cys Thr Tyr His Pro Asp Pro
1880 1885 1890

Val Gly Pro Gly Leu Asp Ile Gln Gln Leu Tyr Trp Glu Leu Ser
1895 1900 1905

Gln Leu Thr His Gly Val Thr Gln Leu Gly Phe Tyr Val Leu Asp
1910 1915 1920

Arg Asp Ser Leu Phe Ile Asn Gly Tyr Ala Pro Gln Asn Leu Ser
1925 1930 1935

Ile Arg Gly Glu Tyr Gln Ile Asn Phe His Ile Val Asn Trp Asn
1940 1945 1950

Leu Ser Asn Pro Asp Pro Thr Ser Ser Glu Tyr Ile Thr Leu Leu
1955 1960 1965

Arg Asp Ile Gln Asp Lys Val Thr Thr Leu Tyr Lys Gly Ser Gln
1970 1975 1980

Leu His Asp Thr Phe Arg Phe Cys Leu Val Thr Asn Leu Thr Met
1985 1990 1995

Asp Ser Val Leu Val Thr Val Lys Ala Leu Phe Ser Ser Asn Leu
2000 2005 2010

Asp Pro Ser Leu Val Glu Gln Val Phe Leu Asp Lys Thr Leu Asn
2015 2020 2025

Ala Ser Phe His Trp Leu Gly Ser Thr Tyr Gln Leu Val Asp Ile
2030 2035 2040

His Val Thr Glu Met Glu Ser Ser Val Tyr Gln Pro Thr Ser Ser
2045 2050 2055

Ser Ser Thr Gln His Phe Tyr Leu Asn Phe Thr Ile Thr Asn Leu
2060 2065 2070

Pro Tyr Ser Gln Asp Lys Ala Gln Pro Gly Thr Thr Asn Tyr Gln
2075 2080 2085

Arg Asn Lys Arg Asn Ile Glu Asp Ala Leu Asn Gln Leu Phe Arg
2090 2095 2100

Asn Ser Ser Ile Lys Ser Tyr Phe Ser Asp Cys Gln Val Ser Thr
2105 2110 2115

Phe Arg Ser Val Pro Asn Arg His His Thr Gly Val Asp Ser Leu
2120 2125 2130

Cys Asn Phe Ser Pro Leu Ala Arg Arg Val Asp Arg Val Ala Ile
2135 2140 2145

Tyr Glu Glu Phe Leu Arg Met Thr Arg Asn Gly Thr Gln Leu Gln
2150 2155 2160

Asn Phe Thr Leu Asp Arg Ser Ser Val Leu Val Asp Gly Tyr Ser
2165 2170 2175

Pro Asn Arg Asn Glu Pro Leu Thr Gly Asn Ser Asp Leu Pro Phe
2180 2185 2190

Trp Ala Val Ile Leu Ile Gly Leu Ala Gly Leu Leu Gly Leu Ile
2195 2200 2205

Thr Cys Leu Ile Cys Gly Val Leu Val Thr Thr Arg Arg Arg Lys
2210 2215 2220

Lys Glu Gly Glu Tyr Asn Val Gln Gln Gln Cys Pro Gly Tyr Tyr
2225 2230 2235

Gln Ser His Leu Asp Leu Glu Asp Leu Gln
2240 2245

<210> 51

<211> 24

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 51
cagcagagac cagcacgagt actc 24

<210> 52

<211> 20

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 52
tccactgcca tggctgagct 20

<210> 53

<211> 22

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 53
ccagcacagc tcttcccagg ac 22

<210> 54

<211> 22

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 54
ggaatggctg agctgacgtc tg 22

<210> 55

<211> 21

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 55

cttcccagga caacctcaag g 21

<210> 56

<211> 21

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 56
gcaggatgag tgagccacgt g 21

<210> 57

<211> 22

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 57
gtcagatctg gtgacctcac tg 22

<210> 58

<211> 21

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 58
gaggcactgg aaagcccaga g 21

<210> 59

<211> 25

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 59
ctgatggcat tatggaacac atcac 25

<210> 60

<211> 22

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 60
cccagaacga gagaccagtg ag 22

<210> 61

<211> 24

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 61
gctgatggcg atgaatgaac actg 24

<210> 62

<211> 22

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 62
cccagaacga gagaccagtg ag 22

<210> 63

<211> 35

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 63
cgcggatccg aacactgcgt ttgctggctt tgatg 35

<210> 64

<211> 23

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 64
cctctgtgtg ctgcttcatt ggg 23

<210> 65

<211> 32

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 65
accggatcca tgggccacac agagcctggc cc 32

<210> 66

<211> 29

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 66
tgtaagctta ggcagggagg atggagtcc 29

<210> 67

<211> 507

<212> DNA

<213> Homo sapien

<400> 67
atgagaggat cgcatcacca tcaccatcac ggatccatgg gccacacaga gcctggccct 60

ctcctgatac cattcacttt caactttacc atcaccaacc tgcattatga ggaaaacatg 120

caacaccctg gttccaggaa gttcaacacc acggagaggg ttctgcaggg tctgctcaag 180

cccttgttca agaacaccag tgttggccct ctgtactctg gctgcagact gaccttgctc 240

agacctgaga agcatgaggc agccactgga gtggacacca tctgtaccca ccgcgttgat 300

cccatcggac ctggactgga cagagagcgg ctatactggg agctgagcca gctgaccaac 360

agcatcacag agctgggacc ctacaccctg gacagggaca gtctctatgt caatggcttc 420

aaccctcgga gctctgtgcc aaccaccagc actcctggga cctccacagt gcacctggca 480

acctctggga ctccatcctc cctgcct 507

<210> 68

<211> 169

<212> PRT

<213> Homo sapiens

<400> 68

```
Met Arg Gly Ser His His His His His His Gly Ser Met Gly His Thr
1               5                  10                  15

Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr
            20                  25                  30

Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
        35                  40                  45

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys
    50                  55                  60

Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu
65                  70                  75                  80

Arg Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr
                85                  90                  95

His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr
            100                 105                 110

Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr
        115                 120                 125

Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser
    130                 135                 140

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala
145                 150                 155                 160

Thr Ser Gly Thr Pro Ser Ser Leu Pro
                165
```

<210> 69

<211> 909

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> (1)..(909)

<223> Any "X" = any amino acid

<400> 69

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser
1 5 10 15

Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys
20 25 30

Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro
35 40 45

Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
50 55 60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro
85 90 95

Thr Thr Ser Ile Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly
100 105 110

Thr Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Ile
115 120 125

Pro Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn
130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu
145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala
180 185 190

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser
195 200 205

Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr
210 215 220

Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr
245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser
260 265 270

Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu Ile Pro Phe
275 280 285

Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn Met His
290 295 300

His Pro Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly
305 310 315 320

Leu Leu Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser
325 330 335

Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr
340 345 350

Arg Val Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys Ser Pro Gly
355 360 365

Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr His Gly
370 375 380

Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val
385 390 395 400

Asn Gly Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr Pro Gly
405 410 415

Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser Ser Pro
420 425 430

Ser Pro Thr Thr Ala Gly Pro Leu Leu Met Pro Phe Thr Leu Asn Phe
435 440 445

Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser
450 455 460

Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Lys Pro
465 470 475 480

Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu
485 490 495

Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala
500 505 510

Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu
515 520 525

Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu Leu
530 535 540

Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr
545 550 555 560

His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val
565 570 575

His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His Thr Ala
580 585 590

Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn

595 600 605

Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe Asn
610 615 620

Thr Met Glu Arg Val Leu Gln Gly Cys Leu Val Pro Cys Ser Arg Asn
625 630 635 640

Thr Asn Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg
645 650 655

Xaa Glu Lys Xaa Xaa Ala Ala Thr Xaa Val Asp Xaa Xaa Cys Xaa Xaa
660 665 670

Xaa Xaa Asp Pro Xaa Xaa Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp
675 680 685

Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Thr
690 695 700

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser
705 710 715 720

Val Ala Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr
725 730 735

Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Val Pro Leu Leu
740 745 750

Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Gly Glu
755 760 765

Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val
770 775 780

Leu Gln Gly Leu Leu Gly Pro Leu Phe Lys Asn Ser Ser Val Gly Pro
785 790 795 800

Leu Tyr Ser Gly Cys Arg Leu Ile Ser Leu Arg Ser Glu Lys Asp Gly
805 810 815

Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His His Leu Asn Pro Gln
820 825 830

Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu Ser Gln Val
835 840 845

Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser
850 855 860

Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu Thr Thr Ser
865 870 875 880

Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser
885 890 895

Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Ile
900 905

<210> 70

<211> 525

<212> PRT

<213> Homo sapiens

<400> 70

Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu
1   5   10   15

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala
            20   25   30

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn
        35   40   45

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr
    50   55   60

Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu
65   70   75   80

Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr
                85   90   95

Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser
            100   105   110

Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Val Pro Phe Thr Leu
        115   120   125

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Ala Met Arg His Pro
    130   135   140

Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu
145   150   155   160

Arg Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly Cys
                165   170   175

Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Arg Val
            180   185   190

Asp Ala Ala Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp
        195   200   205

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr
    210   215   220

Glu Leu Gly Pro Tyr Thr Leu Asp Arg Val Ser Leu Tyr Val Asn Gly
225   230   235   240

Phe Asn Pro Arg Ser Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser
                245   250   255

```
Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His
            260                 265                 270

Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile
        275                 280                 285

Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys
    290                 295                 300

Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe
305                 310                 315                 320

Lys Asn Thr Ser Ile Gly Pro Leu Tyr Ser Ser Cys Arg Leu Thr Leu
                325                 330                 335

Leu Arg Pro Glu Lys Asp Lys Ala Ala Thr Arg Val Asp Ala Ile Cys
            340                 345                 350

Thr His His Pro Asp Pro Gln Ser Pro Gly Leu Asn Arg Glu Gln Leu
        355                 360                 365

Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro
    370                 375                 380

Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asp Gly Phe Thr His Trp
385                 390                 395                 400

Ser Pro Ile Pro Thr Thr Ser Thr Pro Gly Thr Ser Ile Val Asn Leu
                405                 410                 415

Gly Thr Ser Gly Ile Pro Pro Ser Leu Pro Glu Thr Thr Ala Thr Gly
            420                 425                 430

Pro Leu Leu Ile Pro Phe Thr Pro Asn Phe Thr Ile Thr Asn Leu Gln
        435                 440                 445

Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met
    450                 455                 460

Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser
465                 470                 475                 480

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu
                485                 490                 495

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro
            500                 505                 510

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr
        515                 520                 525
```

<210> 71

<211> 594

<212> PRT

<213> Homo sapiens

<400> 71

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
1   5   10   15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
            20   25   30

Lys Asp Gly Val Ala Thr Arg Val Asp Ala Ile Cys Thr His Arg Pro
        35   40   45

Asp Pro Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp Glu Leu
    50   55   60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65   70   75   80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro
                85   90   95

Thr Thr Ser Thr Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu
            100   105   110

Thr Pro Ser Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu
        115   120   125

Pro Phe Thr Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp
    130   135   140

Met His Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145   150   155   160

Gln Gly Leu Leu Met Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu
                165   170   175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala
            180   185   190

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Ser Glu
        195   200   205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
    210   215   220

Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu
225   230   235   240

Tyr Val Asn Gly Phe Thr His Ser Gly Val Leu Cys Pro Pro Pro Ser
                245   250   255

Ile Leu Gly Ile Phe Thr Val Gln Pro Glu Thr Phe Glu Thr Pro Ser
            260   265   270

Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu Pro Phe Thr
        275   280   285

Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp Met His Arg
290 295 300

Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
305 310 315 320

Leu Thr Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
325 330 335

Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly
340 345 350

Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly Leu
355 360 365

Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile
370 375 380

Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn
385 390 395 400

Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly Thr
405 410 415

Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly
420 425 430

His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr
435 440 445

Ile Thr Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg
450 455 460

Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu
465 470 475 480

Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr
485 490 495

Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile
500 505 510

Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln
515 520 525

Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly
530 535 540

Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His
545 550 555 560

Trp Ile Pro Val Pro Thr Ser Ser Thr Pro Gly Thr Ser Thr Val Asp
565 570 575

Leu Gly Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala Gly
580 585 590

Pro Leu

<210> 72

<211> 424

<212> PRT

<213> Homo sapiens

<400> 72

Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg
1 5 10 15

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Tyr Thr His
20 25 30

Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp
35 40 45

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr
50 55 60

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr Ser
65 70 75 80

Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr
85 90 95

Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu
100 105 110

Leu Ile Pro Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu
115 120 125

Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Met Glu Arg
130 135 140

Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly
145 150 155 160

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp
165 170 175

Gly Val Ala Thr Arg Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro
180 185 190

Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp Glu Leu Ser Gln
195 200 205

Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp
210 215 220

Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro Thr Thr
225 230 235 240

Ser Thr Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu Thr Pro
245 250 255

Ser Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu Pro Phe
260 265 270

Thr Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp Met His
275 280 285

Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly
290 295 300

Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser
305 310 315 320

Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr
325 330 335

Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly
340 345 350

Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser
355 360 365

Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val
370 375 380

Asn Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly
385 390 395 400

Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro
405 410 415

Gly His Thr Ala Pro Val Pro Leu
420

<210> 73

<211> 286

<212> PRT

<213> Homo sapiens

<400> 73

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
20 25 30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu
35 40 45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp
65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro
85 90 95

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly
100 105 110

Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Val
115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
130 135 140

Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala
180 185 190

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn
195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr
210 215 220

Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu
225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr
245 250 255

Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser
260 265 270

Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile Pro Phe
275 280 285

<210> 74

<211> 286

<212> PRT

<213> Homo sapiens

<400> 74

Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys

20 25 30

Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro
35 40 45

Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
50 55 60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro
85 90 95

Thr Thr Ser Ile Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly
100 105 110

Thr Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Val
115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
130 135 140

Met His Arg Pro Gly Ser Arg Lys Phe Asn Ala Thr Glu Arg Val Leu
145 150 155 160

Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala
180 185 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg
195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
210 215 220

His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu
225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr
245 250 255

Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser
260 265 270

Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe
275 280 285

<210> 75

<211> 286

<212> PRT

<213> Homo sapiens

<400> 75

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
1   5   10   15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
            20   25   30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu
        35   40   45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
    50   55   60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp
65   70   75   80

Arg Gly Ser Leu Tyr Val Asn Gly Phe Ser Arg Gln Ser Ser Met Thr
                85   90   95

Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg
            100   105   110

Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile
        115   120   125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn
    130   135   140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu
145   150   155   160

Gln Gly Leu Leu Asn Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu
                165   170   175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Lys Pro Glu Lys Asp Gly Ala
            180   185   190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg
        195   200   205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
    210   215   220

His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
225   230   235   240

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala Pro Thr Ser Thr
                245   250   255

Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser
            260   265   270

Leu Pro Ser Pro Thr Thr Ala Val Pro Leu Leu Ile Pro Phe
        275   280   285

<210> 76

<211> 286

<212> PRT

<213> Homo sapiens

<400> 76

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser
1   5   10   15

Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu
            20   25   30

Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro
        35   40   45

Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
    50   55   60

Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp
65   70   75   80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu
                85   90   95

Thr Thr Ser Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly
            100   105   110

Thr Pro Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Ile
        115   120   125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn
    130   135   140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu
145   150   155   160

Gln Gly Leu Leu Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu
                165   170   175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala
            180   185   190

Ala Thr Arg Val Asp Ala Val Cys Thr Gln Arg Pro Asp Pro Lys Ser
        195   200   205

Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr
    210   215   220

His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Leu
225   230   235   240

Tyr Val Asn Gly Leu Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr
                245   250   255

Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser
260 265 270

Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe
275 280 285

<210> 77

<211> 288

<212> PRT

<213> Homo sapiens

<400> 77

Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Ser Lys Asn Ser Ser
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu
20 25 30

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro
35 40 45

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
50 55 60

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp
65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro
85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly
100 105 110

Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile
115 120 125

Pro Phe Thr Val Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn
130 135 140

Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145 150 155 160

Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala
180 185 190

Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser
195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr

```
    210                 215                 220

Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
225                 230                 235                 240

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr
                245                 250                 255

Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser
            260                 265                 270

Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu Ile Pro Phe
        275                 280                 285
```

<210> 78

<211> 597

<212> PRT

<213> Homo sapiens

<400> 78

```
Glu Arg Val Leu His Gly Leu Leu Thr Pro Leu Phe Lys Asn Thr Arg
1               5                   10                  15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
            20                  25                  30

Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val
        35                  40                  45

Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
    50                  55                  60

Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65                  70                  75                  80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser Ser Val Pro
                85                  90                  95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly
            100                 105                 110

Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile
        115                 120                 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn
    130                 135                 140

Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145                 150                 155                 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu
                165                 170                 175
```

```
Tyr Ser Gly Cys Arg Leu Thr Leu Phe Lys Pro Glu Lys His Glu Ala
            180                 185                 190

Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly
        195                 200                 205

Pro Gly Leu Asp Arg Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn
    210                 215                 220

Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr
225                 230                 235                 240

Val Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro
                245                 250                 255

Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu
            260                 265                 270

Pro Gly His Thr Ala Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn
        275                 280                 285

Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly
    290                 295                 300

Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Lys
305                 310                 315                 320

Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg
                325                 330                 335

Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala Ala Thr Gly Val Asp
            340                 345                 350

Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn Pro Gly Leu Asp Arg
        355                 360                 365

Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Arg Gly Ile Ile Glu
    370                 375                 380

Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu Tyr Val Asn Gly Phe
385                 390                 395                 400

Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr Pro Gly Thr Ser Thr
                405                 410                 415

Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser Leu Pro Arg Pro Ile
            420                 425                 430

Val Pro Gly Pro Leu Leu Ile Pro Phe Thr Ile Asn Phe Thr Ile Thr
        435                 440                 445

Asn Leu Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe
    450                 455                 460

Asn Ile Met Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Leu Phe Lys
465                 470                 475                 480

Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Ile Ser Leu
                485                 490                 495
```

Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr
500 505 510

His His Leu Asn Pro Gln Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr
515 520 525

Trp Gln Leu Ser Gln Met Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr
530 535 540

Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser
545 550 555 560

Ser Gly Leu Thr Thr Ser Thr Pro Trp Thr Ser Thr Val Asp Leu Gly
565 570 575

Thr Ser Gly Thr Pro Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro
580 585 590

Leu Leu Ile Pro Phe
595

<210> 79

<211> 420

<212> PRT

<213> Homo sapiens

<400> 79

Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys
1 5 10 15

Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn
20 25 30

Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser
35 40 45

Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg
50 55 60

Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr
65 70 75 80

Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr
85 90 95

Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro
100 105 110

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met
115 120 125

Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Ser Val Leu Gln

```
    130                 135                 140

Gly Leu Leu Thr Pro Leu Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr
145                 150                 155                 160

Ser Gly Cys Arg Leu Ile Ser Leu Arg Ser Glu Lys Asp Gly Ala Ala
                165                 170                 175

Thr Gly Val Asp Ala Ile Cys Thr His His Leu Asn Pro Gln Ser Pro
            180                 185                 190

Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu Ser Gln Met Thr Asn
        195                 200                 205

Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr
    210                 215                 220

Val Asn Gly Phe Thr His Arg Ser Leu Gly Leu Thr Thr Ser Thr Pro
225                 230                 235                 240

Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Pro Val
                245                 250                 255

Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn
            260                 265                 270

Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His Pro Gly
        275                 280                 285

Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu Gln Gly Leu Leu Arg
    290                 295                 300

Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg
305                 310                 315                 320

Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp
                325                 330                 335

Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg
            340                 345                 350

Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu
        355                 360                 365

Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe
    370                 375                 380

Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Pro Thr
385                 390                 395                 400

Val Asp Leu Gly Thr Ser Gly Thr Pro Val Ser Lys Pro Gly Pro Ser
                405                 410                 415

Ala Ala Ser Pro
            420
```

<210> 80

<211> 479

<212> PRT

<213> Homo sapiens

<400> 80

Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu
1 5 10 15

Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr
20 25 30

His Gln Ser Ser Val Ser Thr Thr Ser Thr Pro Gly Thr Ser Thr Val
35 40 45

Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser Leu Ser Ser Pro Thr Ile
50 55 60

Met Ala Ala Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile
65 70 75 80

Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His Pro Gly Ser Arg Lys
85 90 95

Phe Asn Ile Met Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe
100 105 110

Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu
115 120 125

Leu Arg Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys
130 135 140

Ser His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu
145 150 155 160

Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro
165 170 175

Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg
180 185 190

Ser Ser Val Ala Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu
195 200 205

Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala Val
210 215 220

Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys
225 230 235 240

Tyr Glu Glu Asp Met His Cys Pro Gly Ser Arg Lys Phe Asn Thr Thr
245 250 255

Glu Arg Val Leu Gln Ser Leu Phe Gly Pro Met Phe Lys Asn Thr Ser

260 265 270

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Ser Glu
275 280 285

Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu
290 295 300

Asp Pro Lys Ser Leu Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu
305 310 315 320

Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp
325 330 335

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr Ser Ala Pro
340 345 350

Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly
355 360 365

Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu Leu Val
370 375 380

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
385 390 395 400

Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu
405 410 415

Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu
420 425 430

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala
435 440 445

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser
450 455 460

Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu
465 470 475

<210> 81

<211> 5465

<212> DNA

<213> Homo sapiens

<400> 81

cagagagcgt tgagctggga acagtgacaa gtgcttatca agttccttca ctctcaacac 60

ggttgacaag aactgatggc attatggaac acatcacaaa aatacccaat gaagcagcac 120

acagaggtac cataagacca gtcaaaggcc ctcagacatc cacttcgcct gccagtccta 180

aaggactaca cacaggaggg acaaaaagaa tggagaccac caccacagct ttgaagacca 240

ccaccacagc tttgaagacc acttccagag ccaccttgac caccagtgtc tatactccca 300
ctttgggaac actgactccc ctcaatgcat caaggcaaat ggccagcaca atcctcacag 360
aaatgatgat cacaacccca tatgttttcc ctgatgttcc agaaacgaca tcctcattgg 420
ctaccagcct gggagcagaa accagcacag ctcttcccag gacaacccca tctgttctca 480
atagagaatc agagaccaca gcctcactgg tctctcgttc tggggcagag agaagtccgg 540
ttattcaaac tctagatgtt tcttctagtg agccagatac aacagcttca tgggttatcc 600
atcctgcaga gaccatccca actgtttcca agacaacccc caattttttc cacagtgaat 660
tagacactgt atcttccaca gccaccagtc atggggcaga cgtcagctca gccattccaa 720
caaatatctc acctagtgaa ctagatgcac tgaccccact ggtcactatt tcggggacag 780
atactagtac aacattccca acactgacta agtccccaca tgaaacagag acaagaacca 840
catggctcac tcatcctgca gagaccagct caactattcc cagaacaatc cccaattttt 900
ctcatcatga atcagatgcc acaccttcaa tagccaccag tcctggggca gaaaccagtt 960
cagctattcc aattatgact gtctcacctg gtgcagaaga tctggtgacc tcacaggtca 1020
ctagttctgg gacagacaga aatatgacta ttccaacttt gactcttct cctggtgaac 1080
caaagacgat agcctcatta gtcacccatc ctgaagcaca gacaagttcg gccattccaa 1140
cttcaactat ctcgcctgct gtatcacggt tggtgacctc aatggtcacc agtttggcgg 1200
caaagacaag tacaactaat cgagctctga caaactcccc tggtgaacca gctacaacag 1260
tttcattggt cacgcatcct gcacagacca gcccaacagt tccctggaca acttccattt 1320
ttttccatag taaatcagac accacacctt caatgaccac cagtcatggg gcagaatcca 1380
gttcagctgt tccaactcca actgtttcaa ctgaggtacc aggagtagtg accccttttgg 1440
tcaccagttc tagggcagtg atcagtacaa ctattccaat tctgactctt tctcctggtg 1500
aaccagagac cacaccttca atggccacca gtcatgggga agaagccagt tctgctattc 1560
caactccaac tgtttcacct ggggtaccag gagtggtgac ctctctggtc actagttcta 1620
gggcagtgac tagtacaact attccaattc tgactttttc tcttggtgaa ccagagacca 1680
caccttcaat ggccaccagt catgggacag aagctggctc agctgttcca actgttttac 1740
ctgaggtacc aggaatggtg acctctctgg ttgctagttc tagggcagta accagtacaa 1800
ctcttccaac tctgactctt tctcctggtg aaccagagac cacaccttca atggccacca 1860
gtcatggggc agaagccagc tcaactgttc caactgtttc acctgaggta ccaggagtgg 1920
tgacctctct ggtcactagt tctagtggag taaacagtac aagtattcca actctgattc 1980

tttctcctgg tgaactagaa accacacctt caatggccac cagtcatggg gcagaagcca 2040

gctcagctgt tccaactcca actgtttcac ctggggtatc aggagtggtg acccctctgg 2100

tcactagttc cagggcagtg accagtacaa ctattccaat tctaactctt tcttctagtg 2160

agccagagac cacaccttca atggccacca gtcatggggt agaagccagc tcagctgttc 2220

taactgtttc acctgaggta ccaggaatgg tgacctctct ggtcactagt tctagagcag 2280

taaccagtac aactattcca actctgacta tttcttctga tgaaccagag accacaactt 2340

cattggtcac ccattctgag gcaaagatga tttcagccat tccaacttta gctgtctccc 2400

ctactgtaca agggctggtg acttcactgg tcactagttc tgggtcagag accagtgcgt 2460

tttcaaatct aactgttgcc tcaagtcaac cagagaccat agactcatgg gtcgctcatc 2520

ctgggacaga agcaagttct gttgttccaa ctttgactgt ctccactggt gagccgttta 2580

caaatatctc attggtcacc catcctgcag agagtagctc aactcttccc aggacaacct 2640

caaggttttc ccacagtgaa ttagacacta tgccttctac agtcaccagt cctgaggcag 2700

aatccagctc agccatttca actactattt cacctggtat accaggtgtg ctgacatcac 2760

tggtcactag ctctgggaga gacatcagtg caacttttcc aacagtgcct gagtccccac 2820

atgaatcaga ggcaacagcc tcatgggtta ctcatcctgc agtcaccagc acaacagttc 2880

ccaggacaac ccctaattat tctcatagtg aaccagacac cacaccatca atagccacca 2940

gtcctggggc agaagccact tcagattttc caacaataac tgtctcacct gatgtaccag 3000

atatggtaac ctcacaggtc actagttctg ggacagacac cagtataact attccaactc 3060

tgactctttc ttctggtgag ccagagacca caacctcatt tatcacctat tctgagacac 3120

acacaagttc agccattcca actctccctg tctcccctgg tgcatcaaag atgctgacct 3180

cactggtcat cagttctggg acagacagca ctacaacttt cccaacactg acggagaccc 3240

catatgaacc agagacaaca gccatacagc tcattcatcc tgcagagacc aacacaatgg 3300

ttcccaagac aactcccaag ttttcccata gtaagtcaga caccacactc ccagtagcca 3360

tcaccagtcc tgggccagaa gccagttcag ctgtttcaac gacaactatc tcacctgata 3420

tgtcagatct ggtgacctca ctggtcccta gttctgggac agacaccagt acaaccttcc 3480

caacattgag tgagacccca tatgaaccag agactacagt cacgtggctc actcatcctg 3540

cagaaaccag cacaacggtt tctgggacaa ttcccaactt ttcccatagg ggatcagaca 3600

ctgcaccctc aatggtcacc agtcctggag tagacacgag gtcaggtgtt ccaactacaa 3660

ccatcccacc cagtatacca ggggtagtga cctcacaggt cactagttct gcaacagaca 3720

ctagtacagc tattccaact ttgactcctt ctcctggtga accagagacc acagcctcat 3780

cagctaccca tcctgggaca cagactggct tcactgttcc aattcggact gttccctcta 3840
gtgagccaga tacaatggct tcctgggtca ctcatcctcc acagaccagc acacctgttt 3900
ccagaacaac ctccagtttt tcccatagta gtccagatgc cacacctgta atggccacca 3960
gtcctaggac agaagccagt tcagctgtac tgacaacaat ctcacctggt gcaccagaga 4020
tggtgacttc acagatcact agttctgggg cagcaaccag tacaactgtt ccaactttga 4080
ctcattctcc tggtatgcca gagaccacag ccttattgag cacccatccc agaacaggga 4140
caagtaaaac atttcctgct tcaactgtgt ttcctcaagt atcagagacc acagcctcac 4200
tcaccattag acctggtgca gagactagca cagctctccc aactcagaca acatcctctc 4260
tcttcaccct acttgtaact ggaaccagca gagttgatct aagtccaact gcttcacctg 4320
gtgtttctgc aaaaacagcc ccactttcca cccatccagg gacagagacc agcacaatga 4380
ttccaacttc aactctttcc cttggtttac tagagactac aggcttactg gccaccagct 4440
cttcagcaga gaccagcacg agtactctaa ctctgactgt ttcccctgct gtctctgggc 4500
tttccagtgc ctctataaca actgataagc cccaaactgt gacctcctgg aacacagaaa 4560
cctcaccatc tgtaacttca gttggacccc cagaattttc caggactgtc acaggcacca 4620
ctatgacctt gataccatca gagatgccaa caccacctaa aaccagtcat ggagaaggag 4680
tgagtccaac cactatcttg agaactacaa tggttgaagc cactaattta gctaccacag 4740
gttccagtcc cactgtggcc aagacaacaa ccaccttcaa tacactggct ggaagcctct 4800
ttactcctct gaccacacct gggatgtcca ccttggcctc tgagagtgtg acctcaagaa 4860
caagttataa ccatcggtcc tggatctcca ccaccagcag ttataaccgt cggtactgga 4920
cccctgccac cagcactcca gtgacttcta cattctcccc agggatttcc acatcctcca 4980
tccccagctc cacagcagcc acagtcccat tcatggtgcc attcaccctc aacttcacca 5040
tcaccaacct gcagtacgag gaggacatgc ggcaccctgg ttccaggaag ttcaacgcca 5100
cagagagaga actgcagggt ctgctcaaac ccttgttcag gaatagcagt ctggaatacc 5160
tctattcagg ctgcagacta gcctcactca ggccagagaa ggatagctca gccatggcag 5220
tggatgccat ctgcacacat cgccctgacc ctgaagacct cggactggac agagagcgac 5280
tgtactggga gctgagcaat ctgacaaatg gcatccagga gctgggcccc tacaccctgg 5340
accggaacag tctctatgtc aatggtttca cccatcgaag ctctatgccc accaccagca 5400
ctcctgggac ctccacagtg gatgtgggaa cctcagggac tccatcctcc agccccagcc 5460
ccacg 5465

<210> 82

<211> 1821

<212> PRT

<213> Homo sapiens

<400> 82

```
Glu Ser Val Leu Glu Gly Thr Val Thr Ser Ala Tyr Gln Val Pro Ser
1               5                   10                  15

Leu Ser Thr Arg Leu Thr Arg Thr Asp Gly Ile Met Glu His Ile Thr
            20                  25                  30

Lys Ile Pro Asn Glu Ala Ala His Arg Gly Thr Ile Arg Pro Val Lys
        35                  40                  45

Gly Pro Gln Thr Ser Thr Ser Pro Ala Ser Pro Lys Gly Leu His Thr
    50                  55                  60

Gly Gly Thr Lys Arg Met Glu Thr Thr Thr Thr Ala Leu Lys Thr Thr
65                  70                  75                  80

Thr Thr Ala Leu Lys Thr Thr Ser Arg Ala Thr Leu Thr Thr Ser Val
                85                  90                  95

Tyr Thr Pro Thr Leu Gly Thr Leu Thr Pro Leu Asn Ala Ser Arg Gln
            100                 105                 110

Met Ala Ser Thr Ile Leu Thr Glu Met Met Ile Thr Thr Pro Tyr Val
        115                 120                 125

Phe Pro Asp Val Pro Glu Thr Thr Ser Ser Leu Ala Thr Ser Leu Gly
    130                 135                 140

Ala Glu Thr Ser Thr Ala Leu Pro Arg Thr Thr Pro Ser Val Leu Asn
145                 150                 155                 160

Arg Glu Ser Glu Thr Thr Ala Ser Leu Val Ser Arg Ser Gly Ala Glu
                165                 170                 175

Arg Ser Pro Val Ile Gln Thr Leu Asp Val Ser Ser Ser Glu Pro Asp
            180                 185                 190

Thr Thr Ala Ser Trp Val Ile His Pro Ala Glu Thr Ile Pro Thr Val
        195                 200                 205

Ser Lys Thr Thr Pro Asn Phe Phe His Ser Glu Leu Asp Thr Val Ser
    210                 215                 220

Ser Thr Ala Thr Ser His Gly Ala Asp Val Ser Ser Ala Ile Pro Thr
225                 230                 235                 240

Asn Ile Ser Pro Ser Glu Leu Asp Ala Leu Thr Pro Leu Val Thr Ile
```

245 250 255

Ser Gly Thr Asp Thr Ser Thr Thr Phe Pro Thr Leu Thr Lys Ser Pro
260 265 270

His Glu Thr Glu Thr Arg Thr Thr Trp Leu Thr His Pro Ala Glu Thr
275 280 285

Ser Ser Thr Ile Pro Arg Thr Ile Pro Asn Phe Ser His His Glu Ser
290 295 300

Asp Ala Thr Pro Ser Ile Ala Thr Ser Pro Gly Ala Glu Thr Ser Ser
305 310 315 320

Ala Ile Pro Ile Met Thr Val Ser Pro Gly Ala Glu Asp Leu Val Thr
325 330 335

Ser Gln Val Thr Ser Ser Gly Thr Asp Arg Asn Met Thr Ile Pro Thr
340 345 350

Leu Thr Leu Ser Pro Gly Glu Pro Lys Thr Ile Ala Ser Leu Val Thr
355 360 365

His Pro Glu Ala Gln Thr Ser Ser Ala Ile Pro Thr Ser Thr Ile Ser
370 375 380

Pro Ala Val Ser Arg Leu Val Thr Ser Met Val Thr Ser Leu Ala Ala
385 390 395 400

Lys Thr Ser Thr Thr Asn Arg Ala Leu Thr Asn Ser Pro Gly Glu Pro
405 410 415

Ala Thr Thr Val Ser Leu Val Thr His Pro Ala Gln Thr Ser Pro Thr
420 425 430

Val Pro Trp Thr Thr Ser Ile Phe Phe His Ser Lys Ser Asp Thr Thr
435 440 445

Pro Ser Met Thr Thr Ser His Gly Ala Glu Ser Ser Ser Ala Val Pro
450 455 460

Thr Pro Thr Val Ser Thr Glu Val Pro Gly Val Val Thr Pro Leu Val
465 470 475 480

Thr Ser Ser Arg Ala Val Ile Ser Thr Thr Ile Pro Ile Leu Thr Leu
485 490 495

Ser Pro Gly Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly
500 505 510

Glu Glu Ala Ser Ser Ala Ile Pro Thr Pro Thr Val Ser Pro Gly Val
515 520 525

Pro Gly Val Val Thr Ser Leu Val Thr Ser Ser Arg Ala Val Thr Ser
530 535 540

Thr Thr Ile Pro Ile Leu Thr Phe Ser Leu Gly Glu Pro Glu Thr Thr
545 550 555 560

```
Pro Ser Met Ala Thr Ser His Gly Thr Glu Ala Gly Ser Ala Val Pro
                565                 570                 575

Thr Val Leu Pro Glu Val Pro Gly Met Val Thr Ser Leu Val Ala Ser
            580                 585                 590

Ser Arg Ala Val Thr Ser Thr Thr Leu Pro Thr Leu Thr Leu Ser Pro
        595                 600                 605

Gly Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Ala Glu
    610                 615                 620

Ala Ser Ser Thr Val Pro Thr Val Ser Pro Glu Val Pro Gly Val Val
625                 630                 635                 640

Thr Ser Leu Val Thr Ser Ser Ser Gly Val Asn Ser Thr Ser Ile Pro
                645                 650                 655

Thr Leu Ile Leu Ser Pro Gly Glu Leu Glu Thr Thr Pro Ser Met Ala
            660                 665                 670

Thr Ser His Gly Ala Glu Ala Ser Ser Ala Val Pro Thr Pro Thr Val
        675                 680                 685

Ser Pro Gly Val Ser Gly Val Val Thr Pro Leu Val Thr Ser Ser Arg
    690                 695                 700

Ala Val Thr Ser Thr Thr Ile Pro Ile Leu Thr Leu Ser Ser Ser Glu
705                 710                 715                 720

Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Val Glu Ala Ser
                725                 730                 735

Ser Ala Val Leu Thr Val Ser Pro Glu Val Pro Gly Met Val Thr Ser
            740                 745                 750

Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr Thr Ile Pro Thr Leu
        755                 760                 765

Thr Ile Ser Ser Asp Glu Pro Glu Thr Thr Thr Ser Leu Val Thr His
    770                 775                 780

Ser Glu Ala Lys Met Ile Ser Ala Ile Pro Thr Leu Ala Val Ser Pro
785                 790                 795                 800

Thr Val Gln Gly Leu Val Thr Ser Leu Val Thr Ser Ser Gly Ser Glu
                805                 810                 815

Thr Ser Ala Phe Ser Asn Leu Thr Val Ala Ser Ser Gln Pro Glu Thr
            820                 825                 830

Ile Asp Ser Trp Val Ala His Pro Gly Thr Glu Ala Ser Ser Val Val
        835                 840                 845

Pro Thr Leu Thr Val Ser Thr Gly Glu Pro Phe Thr Asn Ile Ser Leu
    850                 855                 860

Val Thr His Pro Ala Glu Ser Ser Ser Thr Leu Pro Arg Thr Thr Ser
865                 870                 875                 880
```

Arg Phe Ser His Ser Glu Leu Asp Thr Met Pro Ser Thr Val Thr Ser
885 890 895

Pro Glu Ala Glu Ser Ser Ser Ala Ile Ser Thr Thr Ile Ser Pro Gly
900 905 910

Ile Pro Gly Val Leu Thr Ser Leu Val Thr Ser Ser Gly Arg Asp Ile
915 920 925

Ser Ala Thr Phe Pro Thr Val Pro Glu Ser Pro His Glu Ser Glu Ala
930 935 940

Thr Ala Ser Trp Val Thr His Pro Ala Val Thr Ser Thr Thr Val Pro
945 950 955 960

Arg Thr Thr Pro Asn Tyr Ser His Ser Glu Pro Asp Thr Thr Pro Ser
965 970 975

Ile Ala Thr Ser Pro Gly Ala Glu Ala Thr Ser Asp Phe Pro Thr Ile
980 985 990

Thr Val Ser Pro Asp Val Pro Asp Met Val Thr Ser Gln Val Thr Ser
995 1000 1005

Ser Gly Thr Asp Thr Ser Ile Thr Ile Pro Thr Leu Thr Leu Ser
1010 1015 1020

Ser Gly Glu Pro Glu Thr Thr Thr Ser Phe Ile Thr Tyr Ser Glu
1025 1030 1035

Thr His Thr Ser Ser Ala Ile Pro Thr Leu Pro Val Ser Pro Gly
1040 1045 1050

Ala Ser Lys Met Leu Thr Ser Leu Val Ile Ser Ser Gly Thr Asp
1055 1060 1065

Ser Thr Thr Thr Phe Pro Thr Leu Thr Glu Thr Pro Tyr Glu Pro
1070 1075 1080

Glu Thr Thr Ala Ile Gln Leu Ile His Pro Ala Glu Thr Asn Thr
1085 1090 1095

Met Val Pro Arg Thr Thr Pro Lys Phe Ser His Ser Lys Ser Asp
1100 1105 1110

Thr Thr Leu Pro Val Ala Ile Thr Ser Pro Gly Pro Glu Ala Ser
1115 1120 1125

Ser Ala Val Ser Thr Thr Thr Ile Ser Pro Asp Met Ser Asp Leu
1130 1135 1140

Val Thr Ser Leu Val Pro Ser Ser Gly Thr Asp Thr Ser Thr Thr
1145 1150 1155

Phe Pro Thr Leu Ser Glu Thr Pro Tyr Glu Pro Glu Thr Thr Ala
1160 1165 1170

Thr Trp Leu Thr His Pro Ala Glu Thr Ser Thr Thr Val Ser Gly

1175 1180 1185

Thr Ile Pro Asn Phe Ser His Arg Gly Ser Asp Thr Ala Pro Ser
1190 1195 1200

Met Val Thr Ser Pro Gly Val Asp Thr Arg Ser Gly Val Pro Thr
1205 1210 1215

Thr Thr Ile Pro Pro Ser Ile Pro Gly Val Val Thr Ser Gln Val
1220 1225 1230

Thr Ser Ser Ala Thr Asp Thr Ser Thr Ala Ile Pro Thr Leu Thr
1235 1240 1245

Pro Ser Pro Gly Glu Pro Glu Thr Thr Ala Ser Ser Ala Thr His
1250 1255 1260

Pro Gly Thr Gln Thr Gly Phe Thr Val Pro Ile Arg Thr Val Pro
1265 1270 1275

Ser Ser Glu Pro Asp Thr Met Ala Ser Trp Val Thr His Pro Pro
1280 1285 1290

Gln Thr Ser Thr Pro Val Ser Arg Thr Thr Ser Ser Phe Ser His
1295 1300 1305

Ser Ser Pro Asp Ala Thr Pro Val Met Ala Thr Ser Pro Arg Thr
1310 1315 1320

Glu Ala Ser Ser Ala Val Leu Thr Thr Ile Ser Pro Gly Ala Pro
1325 1330 1335

Glu Met Val Thr Ser Gln Ile Thr Ser Ser Gly Ala Ala Thr Ser
1340 1345 1350

Thr Thr Val Pro Thr Leu Thr His Ser Pro Gly Met Pro Glu Thr
1355 1360 1365

Thr Ala Leu Leu Ser Thr His Pro Arg Thr Glu Thr Ser Lys Thr
1370 1375 1380

Phe Pro Ala Ser Thr Val Phe Pro Gln Val Ser Glu Thr Thr Ala
1385 1390 1395

Ser Leu Thr Ile Arg Pro Gly Ala Glu Thr Ser Thr Ala Leu Pro
1400 1405 1410

Thr Gln Thr Thr Ser Ser Leu Phe Thr Leu Leu Val Thr Gly Thr
1415 1420 1425

Ser Arg Val Asp Leu Ser Pro Thr Ala Ser Pro Gly Val Ser Ala
1430 1435 1440

Lys Thr Ala Pro Leu Ser Thr His Pro Gly Thr Glu Thr Ser Thr
1445 1450 1455

Met Ile Pro Thr Ser Thr Leu Ser Leu Gly Leu Leu Glu Thr Thr
1460 1465 1470

Gly Leu Leu Ala Thr Ser Ser Ser Ala Glu Thr Ser Thr Ser Thr
1475 1480 1485

Leu Thr Leu Thr Val Ser Pro Ala Val Ser Gly Leu Ser Ser Ala
1490 1495 1500

Ser Ile Thr Thr Asp Lys Pro Gln Thr Val Thr Ser Trp Asn Thr
1505 1510 1515

Glu Thr Ser Pro Ser Val Thr Ser Val Gly Pro Pro Glu Phe Ser
1520 1525 1530

Arg Thr Val Thr Gly Thr Thr Met Thr Leu Ile Pro Ser Glu Met
1535 1540 1545

Pro Thr Pro Pro Lys Thr Ser His Gly Glu Gly Val Ser Pro Thr
1550 1555 1560

Thr Ile Leu Arg Thr Thr Met Val Glu Ala Thr Asn Leu Ala Thr
1565 1570 1575

Thr Gly Ser Ser Pro Thr Val Ala Lys Thr Thr Thr Thr Phe Asn
1580 1585 1590

Thr Leu Ala Gly Ser Leu Phe Thr Pro Leu Thr Thr Pro Gly Met
1595 1600 1605

Ser Thr Leu Ala Ser Glu Ser Val Thr Ser Arg Thr Ser Tyr Asn
1610 1615 1620

His Arg Ser Trp Ile Ser Thr Thr Ser Ser Tyr Asn Arg Arg Tyr
1625 1630 1635

Trp Thr Pro Ala Thr Ser Thr Pro Val Thr Ser Thr Phe Ser Pro
1640 1645 1650

Gly Ile Ser Thr Ser Ser Ile Pro Ser Ser Thr Ala Ala Thr Val
1655 1660 1665

Pro Phe Met Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu
1670 1675 1680

Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn
1685 1690 1695

Ala Thr Glu Arg Glu Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg
1700 1705 1710

Asn Ser Ser Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser
1715 1720 1725

Leu Arg Pro Glu Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile
1730 1735 1740

Cys Thr His Arg Pro Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu
1745 1750 1755

Arg Leu Tyr Trp Glu Leu Ser Asn Leu Thr Asn Gly Ile Gln Glu
1760 1765 1770

Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
1775 1780 1785

Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr Pro Gly Thr
1790 1795 1800

Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser Ser Pro
1805 1810 1815

Ser Pro Thr
1820

<210> 83

<211> 468

<212> DNA

<213> Homo sapiens

<400> 83
gccacagtcc cattcatggt gccattcacc ctcaacttca ccatcaccaa cctgcagtac 60

gaggaggaca tgcggcaccc tggttccagg aagttcaacg ccacagagag agaactgcag 120

ggtctgctca aacccttgtt caggaatagc agtctggaat acctctattc aggctgcaga 180

ctagcctcac tcaggccaga gaaggatagc tcagccatgg cagtggatgc catctgcata 240

catcgccctg accctgaaga cctcggactg gacagagagc gactgtactg ggagctgagc 300

aatctgacaa atggcatcca ggagctgggc ccctacaccc tggaccggaa cagtctctat 360

gtcaatggtt tcacccatcg aagctctatg cccaccacca gcactcctgg gacctccaca 420

gtggatgtgg gaacctcagg gactccatcc tccagcccca gccccacg 468

<210> 84

<211> 474

<212> DNA

<213> Homo sapiens

<400> 84
gctgctggcc ctctcctgat gccgttcacc ctcaacttca ccatcaccaa cctgcagtac 60

gaggaggaca tgcgtcgcac tggctccagg aagttcaaca ccatggagag tgtcctgcag 120

ggtctgctca agcccttgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga 180

ttgaccttgc tcaggcccaa gaaagatggg gcagccactg gagtggatgc catctgcacc 240

caccgccttg accccaaaag ccctggactc aacagggagc agctgtactg ggagctaagc 300

aaactgacca atgacattga agagctgggc ccctacaccc tggacaggaa cagtctctat 360

gtcaatggtt tcacccatca gagctctgtg tccaccacca gcactcctgg gacctccaca 420

gtggatctca gaacctcagg gactccatcc tccctctcca gccccacaat tatg 474

<210> 85

<211> 468

<212> DNA

<213> Homo sapiens

<400> 85
gctgctggcc ctctcctggt accattcacc ctcaacttca ccatcaccaa cctgcagtat 60

ggggaggaca tgggtcaccc tggctccagg aagttcaaca ccacagagag ggtcctgcag 120

ggtctgcttg gtcccatatt caagaacacc agtgttggcc ctctgtactc tggctgcaga 180

ctgacctctc tcaggtctga gaaggatgga gcagccactg gagtggatgc catctgcatc 240

catcatcttg accccaaaag ccctggactc aacagagagc ggctgtactg ggagctgagc 300

caactgacca atggcatcaa agagctgggc ccctacaccc tggacaggaa cagtctctat 360

gtcaatggtt tcacccatcg gacctctgtg cccaccacca gcactcctgg gacctccaca 420

gtggaccttg gaacctcagg gactccattc tccctcccaa gccccgca 468

<210> 86

<211> 465

<212> DNA

<213> Homo sapiens

<400> 86
actgctggcc ctctcctggt gctgttcacc ctcaacttca ccatcaccaa cctgaagtat 60

gaggaggaca tgcatcgccc tggctccagg aagttcaaca ccactgagag ggtcctgcag 120

actctgcttg gtcctatgtt caagaacacc agtgttggcc ttctgtactc tggctgcaga 180

ctgaccttgc tcaggtccga gaaggatgga gcagccactg gagtggatgc catctgcacc 240

caccgtcttg accccaaaag ccctggactg gacagagagc agctatactg ggagctgagc 300

cagctgacca atggcatcaa agagctgggc ccctacaccc tggacaggaa cagtctctat 360

gtcaatggtt tcacccattg gatccctgtg cccaccagca gcactcctgg gacctccaca 420

gtggaccttg ggtcagggac tccatcctcc ctccccagcc ccaca 465

<210> 87

<211> 468

<212> DNA

<213> Homo sapiens

<400> 87

gctgctggcc ctctcctggt gccattcacc ctcaacttca ccatcaccaa cctgcagtac 60

gaggaggaca tgcatcaccc aggctccagg aagttcaaca ccacggagcg ggtcctgcag 120

ggtctgcttg gtcccatgtt caagaacacc agtgtcggcc ttctgtactc tggctgcaga 180

ctgaccttgc tcaggtccga gaaggatgga gcagccactg gagtggatgc catctgcacc 240

caccgtcttg accccaaaag ccctggagtg gacagggagc agctatactg ggagctgagc 300

cagctgacca atggcatcaa agagctgggt ccctacaccc tggacagaaa cagtctctat 360

gtcaatggtt tcacccatca gacctctgcg cccaacacca gcactcctgg gacctccaca 420

gtggaccttg ggacctcagg gactccatcc tccctcccca gccctaca 468

<210> 88

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 88

ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan 60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagng ngtnctgcag 120

ggtctgctnn nncccntntt caagaacacc agtgttggcc ctctgtactc tggctgcaga 180

ctgaccttgc tcaggtccga gaaggatgga gcagccactg gagtggatgc catctgcacc 240

caccgtcttg accccaaaag ccctggagtg gacagggagc agctatactg ggagctgagc 300

cagctgacca atggcatcaa agagctgggt ccctacaccc tggacagaaa cagtctctat 360

gtcaatggtt tcacccatca gacctctgcg cccaacacca gcactcctgg gacctccaca 420

gtggaccttg ggacctcagg gactccatcc tccctcccca gccctaca 468

<210> 89

<211> 468

<212> DNA

<213> Homo sapiens

<400> 89

tctgctggcc ctctcctggt gccattcacc ctcaacttca ccatcaccaa cctgcagtac 60

gaggaggaca tgcatcaccc aggctccagg aagttcaaca ccacggagcg ggtcctgcag 120

ggtctgcttg gtcccatgtt caagaacacc agtgtcggcc ttctgtactc tggctgcaga 180

ctgaccttgc tcaggcctga gaagaatggg gcagccactg gaatggatgc catctgcagc 240

caccgtcttg accccaaaag ccctggactc aacagagagc agctgtactg ggagctgagc 300

cagctgaccc atggcatcaa agagctgggc ccctacaccc tggacaggaa cagtctctat 360

gtcaatggtt tcacccatcg gagctctgtg gcccccacca gcactcctgg gacctccaca 420

gtggaccttg ggacctcagg gactccatcc tccctcccca gccccaca 468

<210> 90

<211> 468

<212> DNA

<213> Homo sapiens

<400> 90

acagctgttc ctctcctggt gccgttcacc ctcaacttta ccatcaccaa tctgcagtat 60

ggggaggaca tgcgtcaccc tggctccagg aagttcaaca ccacagagag ggtcctgcag 120

ggtctgcttg gtcccttgtt caagaactcc agtgtcggcc ctctgtactc tggctgcaga 180

ctgatctctc tcaggtctga gaaggatggg gcagccactg gagtggatgc catctgcacc 240

caccacctta accctcaaag ccctggactg gacagggagc agctgtactg gcagctgagc 300

cagatgacca atggcatcaa agagctgggc ccctacaccc tggaccggaa cagtctctac 360

gtcaatggtt tcacccatcg gagctctggg ctcaccacca gcactccttg gacttccaca 420

gttgaccttg gaacctcagg gactccatcc cccgtcccca gccccaca 468

<210> 91

<211> 468

<212> DNA

<213> Homo sapiens

<400> 91

actgctggcc ctctcctggt gccattcacc ctcaacttca ccatcaccaa cctgcagtat 60

gaggaggaca tgcatcgccc tggatctagg aagttcaaca ccacagagag ggtcctgcag 120

ggtctgctta gtcccatttt caagaactcc agtgttggcc ctctgtactc tggctgcaga 180

ctgacctctc tcaggcccga gaaggatggg gcagcaactg gaatggatgc tgtctgcctc 240

taccacccta atcccaaaag acctggactg gacagagagc agctgtactg ggagctaagc 300

cagctgaccc acaacatcac tgagctgggc ccctacagcc tggacaggga cagtctctat 360

gtcaatggtt tcacccatca gaactctgtg cccaccacca gtactcctgg gacctccaca 420

gtgtactggg caaccactgg gactccatcc tccttccccg gccacaca 468

<210> 92

<211> 468

<212> DNA

<213> Homo sapiens

<400> 92

gagcctggcc ctctcctgat accattcact ttcaacttta ccatcaccaa cctgcattat 60

gaggaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagag ggttctgcag 120

ggtctgctca agcccttgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga 180

ctgacctctc tcaggcccga gaaggatggg gcagcaactg gaatggatgc tgtctgcctc 240

taccacccta atcccaaaag acctgggctg gacagagagc agctgtactg ggagctaagc 300

cagctgaccc acaacatcac tgagctgggc ccctacagcc tggacaggga cagtctctat 360

gtcaatggtt tcacccatca gaactctgtg cccaccacca gtactcctgg gacctccaca 420

gtgtactggg caaccactgg gactccatcc tccttccccg gccacaca 468

<210> 93

<211> 468

<212> DNA

<213> Homo sapiens

<400> 93

gagcctggcc ctctcctgat accattcact ttcaacttta ccatcaccaa cctgcattat 60

gaggaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagag ggttctgcag 120

ggtctgctca agcccttgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga 180

ctgaccttgc tcagacctga gaagcatgag gcagccactg gagtggacac catctgtacc 240

caccgcgttg atcccatcgg acctggactg gacagggagc ggctatactg ggagctgagc 300

cagctgacca acagcattac cgaactggga ccctacaccc tggacaggga cagtctctat 360

gtcaatggct tcaaccctcg gagctctgtg ccaaccacca gcactcctgg gacctccaca 420

gtgcacctgg caacctctgg gactccatcc tccctgcctg gccacaca 468

<210> 94

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 94

gcccctgtcc ctctcttgat accattcacc ctcaacttta ccatcaccaa cctgcattat 60

gaggaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagag ggttctgcag 120

ggtctgctca agcccttgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga 180

ctgaccttgc tcagacctga gaagcatgag gcagccactg gagtggacac catctgtacc 240

caccgcgttg atcccatcgg acctggactg nacagngagc ngctntactg ggagctnagc 300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360

gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca 420

gtgnacntng gnacctcngg gactccatcc tccntccccn gccncaca 468

<210> 95

<211> 468

<212> DNA

<213> Homo sapiens

<400> 95
tctgctggcc ctctcctggt gccattcacc ctcaacttca ccatcaccaa cctgcagtac 60

gaggaggaca tgcatcaccc aggctccagg aagttcaaca ccacggagcg ggtcctgcag 120

ggtctgcttg gtcccatgtt caagaacacc agtgtcggcc ttctgtactc tggctgcaga 180

ctgaccttgc tcaggcctga gaagaatggg gcagccactg gaatggatgc catctgcagc 240

caccgtcttg accccaaaag ccctggactc gacagagagc agctgtactg ggagctgagc 300

cagctgaccc atggcatcaa agagctgggc ccctacaccc tggacaggaa cagtctctat 360

gtcaatggtt tcacccatcg gagctctgtg gcccccacca gcactcctgg gacctccaca 420

gtggaccttg ggacctcagg gactccatcc tccctcccca gccccaca 468

<210> 96

<211> 468

<212> DNA

<213> Homo sapiens

<400> 96
acagctgttc ctctcctggt gccgttcacc ctcaacttta ccatcaccaa tctgcagtat 60

ggggaggaca tgcgtcaccc tggctccagg aagttcaaca ccacagagag ggtcctgcag 120

ggtctgcttg gtcccttgtt caagaactcc agtgtcggcc ctctgtactc tggctgcaga 180

ctgatctctc tcaggtctga gaaggatggg gcagccactg gagtggatgc catctgcacc 240

caccacctta accctcaaag ccctggactg gacagggagc agctgtactg gcagctgagc 300

cagatgacca atggcatcaa agagctgggc ccctacaccc tggaccggaa cagtctctac 360

gtcaatggtt tcacccatcg gagctctggg ctcaccacca gcactccttg gacttccaca 420

gttgaccttg gaacctcagg gactccatcc cccgtcccca gccccaca 468

<210> 97

<211> 468

<212> DNA

<213> Homo sapiens

<400> 97

actgctggcc ctctcctggt gccattcacc ctaaacttca ccatcaccaa cctgcagtat 60

gaggaggaca tgcatcgccc tggatctagg aagttcaacg ccacagagag ggtcctgcag 120

ggtctgctta gtcccatatt caagaactcc agtgttggcc ctctgtactc tggctgcaga 180

ctgacctctc tcaggcccga gaaggatggg gcagcaactg gaatggatgc tgtctgcctc 240

taccacccta atcccaaaag acctggactg gacagagagc agctgtactg ggagctaagc 300

cagctgaccc acaacatcac tgagctgggc ccctacagcc tggacaggga cagtctctat 360

gtcaatggtt tcacccatca gagctctatg acgaccacca gaactcctga tacctccaca 420

atgcacctgg caacctcgag aactccagcc tccctgtctg gacctacg 468

<210> 98

<211> 474

<212> DNA

<213> Homo sapiens

<400> 98

accgccagcc ctctcctggt gctattcaca atcaactgca ccatcaccaa cctgcagtac 60

gaggaggaca tgcgtcgcac tggctccagg aagttcaaca ccatggagag tgtcctgcag 120

ggtctgctca agcccttgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga 180

ttgaccttgc tcaggcccaa gaaagatggg gcagccactg gagtggatgc catctgcacc 240

caccgccttg accccaaaag ccctggactc aacagggagc agctgtactg ggagctaagc 300

aaactgacca atgacattga agagctgggc ccctacaccc tggacaggaa cagtctctat 360

gtcaatggtt tcacccatca gagctctgtg tccaccacca gcactcctgg gacctccaca 420

gtggatctca gaacctcagg gactccatcc tccctctcca gccccacaat tatg 474

<210> 99

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 99
ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan 60

gnggannaca tgcnnncnccc nggntccagg aagttcaaca ccacngagag ggtcctacag 120

ggtctgctca ggcccttgtt caagaacacc agtgtcagct ctctgtactc tggttgcaga 180

ctgaccttgc tcaggcctga gaaggatggg gcagccacca gagtggatgc tgcctgcacc 240

taccgccctg atcccaaaag ccctggactg gacagagagc aactatactg ggagctgagc 300

cagctaaccc acagcatcac tgagctggga ccctacaccc tggacagggt cagtctctat 360

gtcaatggct tcaaccctcg gagctctgtg ccaaccacca gcactcctgg gacctccaca 420

gtgcacctgg caacctctgg gactccatcc tccctgcctg gccacaca 468

<210> 100

<211> 468

<212> DNA

<213> Homo sapiens

<400> 100
gcccctgtcc ctctcttgat accattcacc ctcaacttta ccatcaccaa cctgcattat 60

gaagaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagag ggttctgcag 120

ggtctgctca agcccttgtt caagagcacc agcgttggcc ctctgtactc tggctgcaga 180

ctgaccttgc tcagacctga gaaacatggg gcagccactg gagtggacgc catctgcacc 240

ctccgccttg atcccactgg tcctggactg gacagagagc ggctatactg ggagctgagc 300

cagctgacca acagcgttac agagctgggc ccctacaccc tggacaggga cagtctctat 360

gtcaatggct tcacccagcg gagctctgtg ccaaccacca gtattcctgg gacctctgca 420

gtgcacctgg aaacctctgg gactccagcc tccctccctg gccacaca 468

<210> 101

<211> 468

<212> DNA

<213> Homo sapiens

<400> 101
gcccctggcc ctctcctggt gccattcacc ctcaacttca ctatcaccaa cctgcagtat 60

gaggtggaca tgcgtcaccc tggttccagg aagttcaaca ccacggagag agtcctgcag 120

ggtctgctca agcccttgtt caagagcacc agtgttggcc ctctgtactc tggctgcaga 180

ctgaccttgc tcaggcctga aaaacgtggg gcagccaccg gcgtggacac catctgcact 240

caccgccttg accctctaaa ccctggactg gacagagagc agctatactg ggagctgagc 300

aaactgaccc gtggcatcat cgagctgggc ccctacctcc tggacagagg cagtctctat 360

gtcaatggtt tcacccatcg gaactttgtg cccatcacca gcactcctgg gacctccaca 420

gtacacctag gaacctctga aactccatcc tccctaccta gacccata 468

<210> 102

<211> 468

<212> DNA

<213> Homo sapiens

<400> 102
gtgcctggcc ctctcctggt gccattcacc ctcaacttca ccatcaccaa cttgcagtat 60

gaggaggcca tgcgacaccc tggctccagg aagttcaata ccacggagag ggtcctacag 120

ggtctgctca ggcccttgtt caagaatacc agtatcggcc ctctgtactc cagctgcaga 180

ctgaccttgc tcaggccaga gaaggacaag gcagccacca gagtggatgc catctgtacc 240

caccaccctg accctcaaag ccctggactg aacagagagc agctgtactg ggagctgagc 300

cagctgaccc acggcatcac tgagctgggc ccctacaccc tggacaggga cagtctctat 360

gtcgatggtt tcactcattg gagccccata ccgaccacca gcactcctgg gacctccata 420

gtgaacctgg gaacctctgg gatcccacct tccctccctg aaactaca 468

<210> 103

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 103

ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan 60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagag ggttctgcag 120

ggtctgctca aacccttgtt caggaatagc agtctggaat acctctattc aggctgcaga 180

ctagcctcac tcaggccaga gaaggatagc tcagccatgg cagtggatgc catctgcaca 240

catcgccctg accctgaaga cctcggactg gacagagagc gactgtactg ggagctgagc 300

aatctgacaa atggcatcca ggagctgggc ccctacaccc tggaccggaa cagtctctac 360

gtcaatggtt tcacccatcg gagctctggg ctcaccacca gcactccttg gacttccaca 420

gttgaccttg gaacctcagg gactccatcc cccgtcccca gccccaca 468

<210> 104

<211> 468

<212> DNA

<213> Homo sapiens

<400> 104
actgctggcc ctctcctggt gccattcacc ctcaacttca ccatcaccaa cctgcagtat 60

gaggaggaca tgcatcgccc tggttccagg aggttcaaca ccacggagag ggttctgcag 120

ggtctgctca cgcccttgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga 180

ctgaccttgc tcagacctga gaagcaagag gcagccactg gagtggacac catctgtacc 240

caccgcgttg atcccatcgg acctggactg gacagagagc ggctatactg ggagctgagc 300

cagctgacca acagcatcac agagctggga ccctacaccc tggataggga cagtctctat 360

gtcaatggct tcaacccttg gagctctgtg ccaaccacca gcactcctgg gacctccaca 420

gtgcacctgg caacctctgg gactccatcc tccctgcctg gccacaca 468

<210> 105

<211> 468

<212> DNA

<213> Homo sapiens

<400> 105
gcccctgtcc ctctcttgat accattcacc ctcaacttta ccatcaccga cctgcattat 60

gaagaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagag ggttctgcag 120

ggtctgctca agcccttgtt caagagcacc agcgttggcc ctctgtactc tggctgcaga 180

ctgaccttgc tcagacctga gaaacatggg gcagccactg gagtggacgc catctgcacc 240

ctccgccttg atcccactgg tcctggactg gacagagagc ggctatactg ggagctgagc 300

cagctgacca acagcgttac agagctgggc ccctacaccc tggacaggga cagtctctat 360

gtcaatggct tcacccatcg gagctctgtg ccaaccacca gtattcctgg gacctctgca 420

gtgcacctgg aaacctctgg gactccagcc tccctccctg gccacaca 468

<210> 106

<211> 468

<212> DNA

<213> Homo sapiens

<400> 106

gcccctggcc ctctcctggt gccattcacc ctcaacttca ctatcaccaa cctgcagtat 60

gaggaggaca tgcgtcaccc tggttccagg aagttcagca ccacggagag agtcctgcag 120

ggtctgctca agcccttgtt caagaacacc agtgtcagct ctctgtactc tggttgcaga 180

ctgaccttgc tcaggcctga gaaggatggg gcagccacca gagtggatgc tgtctgcacc 240

catcgtcctg accccaaaag ccctggactg gacagagagc ggctgtactg gaagctgagc 300

cagctgaccc acggcatcac tgagctgggc ccctacaccc tggacaggca cagtctctat 360

gtcaatggtt tcacccatca gagctctatg acgaccacca gaactcctga tacctccaca 420

atgcacctgg caacctcgag aactccagcc tccctgtctg gacctacg 468

<210> 107

<211> 468

<212> DNA

<213> Homo sapiens

<400> 107
accgccagcc ctctcctggt gctattcaca attaacttca ccatcactaa cctgcggtat 60

gaggagaaca tgcatcaccc tggctctaga aagtttaaca ccacggagag agtccttcag 120

ggtctgctca ggcctgtgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga 180

ctgaccacgc tcaggcccaa gaaggatggg gcagccacca aagtggatgc catctgcacc 240

taccgccctg atcccaaaag ccctggactg gacagagagc agctatactg ggagctgagc 300

cagctaaccc acagcatcac tgagctgggc ccctacaccc aggacaggga cagtctctat 360

gtcaatggct tcacccatcg gagctctgtg ccaaccacca gtattcctgg gacctctgca 420

gtgcacctgg aaacctctgg gactccagcc tccctccctg gccacaca 468

<210> 108

<211> 468

<212> DNA

<213> Homo sapiens

<400> 108
gcccctggcc ctctcctggt gccattcacc ctcaacttca ctatcaccaa cctgcagtat 60

gaggaggaca tgcgtcaccc tggttccagg aagttcaaca ccacggagag agtcctgcag 120

ggtctgctca agcccttgtt caagagcacc agtgttggcc ctctgtactc tggctgcaga 180

ctgaccttgc tcaggcctga aaaacgtggg gcagccaccg gcgtggacac catctgcact 240

caccgccttg accctctaaa cccaggactg gacagagagc agctatactg ggagctgagc 300

aaactgaccc gtggcatcat cgagctgggc ccctacctcc tggacagagg cagtctctat 360

gtcaatggtt tcacccatcg gacctctgtg cccaccacca gcactcctgg gacctccaca 420

gtggaccttg gaacctcagg gactccattc tccctcccaa gccccgca 468

<210> 109

<211> 465

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(465)

<223> All N's = any nucleotide

<400> 109

ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan 60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagag ggtcctgcag 120

actctgcttg gtcctatgtt caagaacacc agtgttggcc ttctgtactc tggctgcaga 180

ctgaccttgc tcaggtccga gaaggatgga gcagccactg gagtggatgc catctgcacc 240

caccgtcttg accccaaaag ccctggagtg gacagggagc aactatactg ggagctgagc 300

cagctgacca atggcattaa agaactgggc ccctacaccc tggacaggaa cagtctctat 360

gtcaatgggt tcacccattg gatccctgtg cccaccagca gcactcctgg gacctccaca 420

gtggaccttg ggtcagggac tccatcctcc ctccccagcc ccaca 465

<210> 110

<211> 468

<212> DNA

<213> Homo sapiens

<400> 110
actgctggcc ctctcctggt gccgttcacc ctcaacttca ccatcaccaa cctgaagtac 60

gaggaggaca tgcattgccc tggctccagg aagttcaaca ccacagagag agtcctgcag 120

agtctgcttg gtcccatgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga 180

ctgaccttgc tcaggtccga gaaggatgga gcagccactg gagtggatgc catctgcacc 240

caccgtcttg accccaaaag ccctggagtg gacagggagc agctatactg ggagctgagc 300

cagctgacca atggcatcaa agagctgggt ccctacaccc tggacagaaa cagtctctat 360

gtcaatggtt tcacccatca gacctctgcg cccaacacca gcactcctgg gacctccaca 420

gtggaccttg ggacctcagg gactccatcc tccctcccca gccctaca 468

<210> 111

<211> 465

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(465)

<223> All N's = any nucleotide

<400> 111
ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan 60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagng ngtnctgcag 120

ggtctgctnn nncccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga 180

ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc 240

caccnncntn ancccaaaag ncctggactg nacagngagc ngctntactg ggagctnagc 300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360

gtcaatggtt tcacccattg gatccctgtg cccaccagca gcactcctgg gacctccaca 420

gtggaccttg ggtcagggac tccatcctcc ctccccagcc ccaca 465

<210> 112

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 112
actgctggcc ctctcctggt gccgttcacc ctcaacttca ccatcaccaa cctgaagtac 60

gaggaggaca tgcattgccc tggctccagg aagttcaaca ccacagagag agtcctgcag 120

agtctgcttg gtcccatgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga 180

ctgacctcgc tcaggtccga gaaggatgga gcagccactg gagtggatgc catctgcacc 240

caccgtgttg accccaaaag ccctggagtg gacagggagc agctatactg ggagctgagc 300

cagctgacca atggcatcaa agagctgggt ccctacaccc tggacagaaa cagtctctat 360

gtcaatggtt tcacccatca gacctctgcg cccaacacca gcactcctgg gacctccaca 420

gtgnacntng gnacctcngg gactccatcc tccntccccn gccncaca 468

<210> 113

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 113
tctgctggcc ctctcctggt gccattcacc ctcaacttca ccatcaccaa cctgcagtac 60

gaggaggaca tgcatcaccc aggctccagg aagttcaaca ccacggagcg ggtcctgcag 120

ggtctgcttg gtcccatgtt caagaacacc agtgtcggcc ttctgtactc tggctgcaga 180

ctgaccttgc tcaggcctga gaagaatggg gcaaccactg gaatggatgc catctgcacc 240

caccgtcttg accccaaaag ccctggactg nacagngagc ngctntactg ggagctnagc 300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360

gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca 420

gtgnacntng gnacctcngg gactccatcc tccntccccn gccncaca 468

<210> 114

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 114
ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan 60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagag ggttctgcag 120

ggtctgctca aacccttgtt caggaatagc agtctggaat acctctattc aggctgcaga 180

ctagcctcac tcaggccaga gaaggatagc tcagccatgg cagtggatgc catctgcaca 240

catcgccctg accctgaaga cctcggactg gacagagagc gactgtactg ggagctgagc 300

aatctgacaa atggcatcca ggagctgggc ccctacaccc tggaccggaa cagtctctat 360

gtcaatggtt tcacccatcg aagctctatg cccaccacca gcactcctgg gacctccaca 420

gtggatgtgg gaacctcagg gactccatcc tccagcccca gccccacg 468

<210> 115

<211> 468

<212> DNA

<213> Homo sapiens

<400> 115
actgctggcc ctctcctgat accattcacc ctcaacttca ccatcaccaa cctgcagtat 60

ggggaggaca tgggtcaccc tggctccagg aagttcaaca ccacagagag ggtcctgcag 120

ggtctgcttg gtcccatatt caagaacacc agtgttggcc ctctgtactc tggctgcaga 180

ctgacctctc tcaggtctga gaaggatgga gcagccactg gagtggatgc catctgcatc 240

catcatcttg accccaaaag ccctggactc aacagagagc ggctgtactg ggagctgagc 300

caactgacca atggcatcaa agagctgggc ccctacaccc tggacaggaa cagtctctat 360

gtcaatggtt tcacccatcg gacctctgtg cccaccacca gcactcctgg gacctccaca 420

gtggaccttg gaacctcagg gactccattc tccctcccaa gccccgca 468

<210> 116

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 116
actgctggcc ctctcctggt gctgttcacc ctcaacttca ccatcaccaa cctgaagtat 60

gaggaggaca tgcatcgccc tggctccagg aagttcaaca ccactgagag ggtcctgcag 120

actctgcttg gtcctatgtt caagaacacc agtgttggcc ttctgtactc tggctgcaga 180

ctgaccttgc tcaggtccga gaaggatgga gcagccactg gagtggatgc catctgcacc 240

caccgtcttg accccaaaag ccctggactg nacagngagc ngctntactg ggagctnagc 300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360

gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca 420

gtgnacntng gnacctcngg gactccatcc tccntccccn gccncaca 468

<210> 117

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 117
ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan 60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagag agtccttcag 120

ggtctgctca ggcctgtgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga 180

ctgaccttgc tcaggcccaa gaaggatggg gcagccacca aagtggatgc catctgcacc 240

taccgccctg atcccaaaag ccctggactg gacagagagc agctatactg ggagctgagc 300

cagctaaccc acagcatcac tgagctgggc ccctacaccc aggacaggga cagtctctat 360

gtcaatggct tcacccatcg gagctctgtg ccaaccacca gtattcctgg gacctctgca 420

gtgcacctgg aaaccactgg gactccatcc tccttccccg gccacaca 468

<210> 118

<211> 468

<212> DNA

<213> Homo sapiens

<400> 118
gagcctggcc ctctcctgat accattcact ttcaacttta ccatcaccaa cctgcgttat 60

gaggaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagag ggttctgcag 120

ggtctgctca cgcccttgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga 180

ctgaccttgc tcagacctga gaagcaggag gcagccactg gagtggacac catctgtacc 240

caccgcgttg atcccatcgg acctggactg gacagagagc ggctatactg ggagctgagc 300

cagctgacca acagcatcac agagctggga ccctacaccc tggataggga cagtctctat 360

gtcgatggct tcaacccttg gagctctgtg ccaaccacca gcactcctgg gacctccaca 420

gtgcacctgg caacctctgg gactccatcc cccctgcctg gccacaca 468

<210> 119

<211> 468

<212> DNA

<213> Homo sapiens

<400> 119

gcccctgtcc ctctcttgat accattcacc ctcaacttta ccatcaccga cctgcattat 60

gaagaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagag ggttctgcag 120

ggtctgctca agcccttgtt caagagcacc agcgttggcc ctctgtactc tggctgcaga 180

ctgaccttgc tcagacctga gaaacatggg gcagccactg gagtggacgc catctgcacc 240

ctccgccttg atcccactgg tcctggactg gacagagagc ggctatactg ggagctgagc 300

cagctgacca acagcatcac agagctggga ccctacaccc tggataggga cagtctctat 360

gtcaatggct tcaacccttg gagctctgtg ccaaccacca gcactcctgg gacctccaca 420

gtgcacctgg caacctctgg gactccatcc tccctgcctg gccacaca 468

<210> 120

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 120
actgctggcc ctctcctggt gccgttcacc ctcaacttca ccatcaccaa cctgaagtac 60

gaggaggaca tgcattgccc tggctccagg aagttcaaca ccacagagag agtcctgcag 120

agtctgcatg gtcccatgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga 180

ctgaccttgc tcaggtccga gaaggatgga gcagccactg gagtggatgc catctgcacc 240

caccgtcttg accccaaaag ccctggactg nacagngagc ngctntactg ggagctnagc 300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360

gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca 420

gtgnacntng gnacctcngg gactccatcc tccntccccn gccncaca 468

<210> 121

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 121
ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan 60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagng ngtnctgcag 120

ggtctgctnn nncccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga 180

ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc 240

caccnncntn ancccaaaag ncctggactg nacagngagc ngctntactg ggagctnagc 300

canctgacca acagcatcac agagctggga ccctacaccc tggataggga cagtctctat 360

gtcaatggtt tcacccatcg aagctctatg cccaccacca gtattcctgg gacctctgca 420

gtgcacctgg aaacctctgg gactccagcc tccctccctg gccacaca 468

<210> 122

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 122

gcccctggcc ctctcctggt gccattcacc ctcaacttca ctatcaccaa cctgcagtat 60

gaggaggaca tgcgtcaccc tggttccagg aagttcaaca ccacggagag agtcctgcag 120

ggtctgctca agcccttgtt caagagcacc agtgttggcc ctctgtactc tggctgcaga 180

ctgaccttgc tcaggcctga aaaacgtggg gcagccaccg gcgtggacac catctgcact 240

caccgccttg accctctaaa ccctggactg nacagngagc ngctntactg ggagctnagc 300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360

gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca 420

gtgnacntng gnacctcngg gactccatcc tccntccccn gccncaca 468

<210> 123

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 123

```
ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan      60
gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagng ngtnctgcag     120
ggtctgctnn nncccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga     180
ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc     240
caccnncntn ancccaaaag ncctggactg nacagngagc ngctntactg ggagctnagc     300
canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat     360
gtcaatggtt ttcaccctcg gagctctgtg ccaaccacca gcactcctgg gacctccaca     420
gtgcacctgg caacctctgg gactccatcc tccctgcctg gccacaca                  468
```

```
<210>  124
<211>  468
<212>  DNA
<213>  Homo sapiens

<220>
<221>  misc_feature
<222>  (1)..(468)
<223>  All N's = any nucleotide

<400>  124
gcccctgtcc ctctcttgat accattcacc ctcaacttta ccatcaccaa cctgcattat      60
gaagaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagcg ggtcctgcag     120
ggtctgcttg gtcccatgtt caagaacaca agtgtcggcc ttctgtactc tggctgcaga     180
ctgaccttgc tcaggcctga gaagaatggg gcagccactg gaatggatgc catctgcagc     240
caccgtcttg accccaaaag ccctggactg nacagngagc ngctntactg ggagctnagc     300
canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat     360
gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca     420
gtgnacntng gnacctcngg gactccatcc tccntccccn gccncaca                  468

<210>  125
<211>  468
```

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 125
ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan 60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagng ngtnctgcag 120

ggtctgctnn nncccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga 180

ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc 240

caccnncntn ancccaaaag ncctggactg nacagngagc ngctntactg ggagctnagc 300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360

gtcaatggtt tcacccatca gaactctgtg cccaccacca gtactcctgg gacctccaca 420

gtgtactggg caaccactgg gactccatcc tccttccccg gccacaca 468

<210> 126

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 126
gagcctggcc ctctcctgat accattcact ttcaacttta ccatcaccaa cctgcattat 60

gaggaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagag ggttctgcag 120

ggtctgctca cgcccttgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga 180

ctgaccttgc tcagacctga gaagcaggag gcagccactg gagtggacac catctgtacc 240

caccgcgttg atcccatcgg acctggactg nacagngagc ngctntactg ggagctnagc 300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360

gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca 420

gtgnacntng gnacctcngg gactccatcc tccntccccn gccncaca 468

<210> 127

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 127

ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan 60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagng ngtnctgcag 120

ggtctgctnn nncccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga 180

ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc 240

caccnncntn ancccaaaag ncctggactg nacagngagc ngctntactg ggagctnagc 300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360

gtcaatggtt tcacccatcg gagctctgtg ccaaccacca gcagtcctgg gacctccaca 420

gtgcacctgg caacctctgg gactccatcc tccctgcctg gccacaca 468

<210> 128

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 128
gcccctgtcc ctctcttgat accattcacc ctcaacttta ccatcaccaa cctgcattat 60

gaagaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagag ggttctgcag 120

ggtctgctca agcccttgtt caagagcacc agtgttggcc ctctgtactc tggctgcaga 180

ctgaccttgc tcagacctga gaaacatggg gcagccactg gagtggacgc catctgcacc 240

ctccgccttg atcccactgg tcctggactg nacagngagc ngctntactg ggagctnagc 300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360

gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca 420

gtgnacntng gnacctcngg gactccatcc tccntccccn gccncaca 468

<210> 129

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 129
ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan 60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagng ngtnctgcag 120

ggtctgctnn nncccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga 180

ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc 240

caccnncntn ancccaaaag ncctggactg nacagngagc ngctntactg ggagctnagc 300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360

gtcaatggtt tcacccatcg gacctctgtg cccaccacca gcactcctgg gacctccaca 420

gtgcacctgg caacctctgg gactccatcc tccctgcctg gccacaca 468

<210> 130

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 130

gcccctgtcc ctctcttgat accattcacc ctcaacttta ccatcaccaa cctgcagtat 60

gaggaggaca tgcatcgccc tggatctagg aagttcaaca ccacagagag ggtcctgcag 120

ggtctgctta gtcccatttt caagaactcc agtgttggcc ctctgtactc tggctgcaga 180

ctgacctctc tcaggcccga gaaggatggg gcagcaactg gaatggatgc tgtctgcctc 240

taccacccta atcccaaaag acctggactg nacagngagc ngctntactg ggagctnagc 300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360

gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca 420

gtgnacntng gnacctcngg gactccatcc tccntccccn gccncaca 468

<210> 131

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 131
ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan   60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagng ngtnctgcag   120

ggtctgctnn nncccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga   180

ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc   240

caccnncntn ancccaaaag ncctggactg nacagngagc ngctntactg ggagctnagc   300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat   360

gtcaatggtt tcacccattg gagctctggg ctcaccacca gcactccttg gacttccaca   420

gttgaccttg gaacctcagg gactccatcc cccgtcccca gccccaca   468

<210> 132

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 132
actgctggcc ctctcctggt gccattcacc ctaaacttca ccatcaccaa cctgcagtat   60

gaggaggaca tgcatcgccc tggatctagg aagttcaacg ccacagagag ggtcctgcag   120

ggtctgctta gtcccatatt caagaacacc agtgttggcc ctctgtactc tggctgcaga   180

ctgaccttgc tcagacctga gaagcaggag gcagccactg gagtggacac catctgtacc   240

caccgcgttg atcccatcgg acctggactg nacagngagc ngctntactg ggagctnagc   300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat   360

gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca 420

gtgnacntng gnacctcngg gactccatcc tccntccccn gccncaca 468

<210> 133

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 133

ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan 60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagng ngtnctgcag 120

ggtctgctnn nncccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga 180

ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc 240

caccnncntn ancccaaaag ncctggactg nacagngagc ngctntactg ggagctnagc 300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360

gtcaatggtt tcacccatcg gagctttggg ctcaccacca gcactccttg gacttccaca 420

gttgaccttg gaacctcagg gactccatcc cccgtcccca gccccaca 468

<210> 134

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 134
actgctggcc ctctcctggt gccattcacc ctaaacttca ccatcaccaa cctgcagtat 60

gaggaggaca tgcatcgccc tggctccagg aagttcaaca ccacggagag ggtccttcag 120

ggtctgctta cgcccttgtt caggaacacc agtgtcagct ctctgtactc tggttgcaga 180

ctgaccttgc tcaggcctga gaaggatggg gcagccacca gagtggatgc tgtctgcacc 240

catcgtcctg accccaaaag ccctggactg nacagngagc ngctntactg ggagctnagc 300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360

gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca 420

gtgnacntng gnacctcngg gactccatcc tccntccccn gccncaca 468

<210> 135

<211> 465

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(465)

<223> All N's = any nucleotide

<400> 135
ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan 60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagng ngtnctgcag 120

ggtctgctnn nncccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga 180

ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc 240

caccnncntn ancccaaaag ncctggactg nacagngagc ngctntactg ggagctnagc 300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360

gtcaatggtt tcacccattg gatccctgtg cccaccagca gcactcctgg gacctccaca 420

gtggaccttg ggtcagggac tccatcctcc ctccccagcc ccaca 465

<210> 136

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 136
actgctggcc ctctcctggt accattcacc ctcaacttca ccatcaccaa cctgcagtat 60

ggggaggaca tgggtcaccc tggctccagg aagttcaaca ccacagagag ggtcctgcag 120

ggtctgcttg gtcccatatt caagaacacc agtgttggcc ctctgtactc tggctgcaga 180

ctgacctctc tcaggtccga gaaggatgga gcagccactg gagtggatgc catctgcatc 240

catcatcttg accccaaaag ccctggactg nacagngagc ngctntactg ggagctnagc 300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360

gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca 420

gtgnacntng gnacctcngg gactccatcc tccntccccn gccncaca 468

<210> 137

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 137
ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan 60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagng ngtnctgcag 120

ggtctgctnn nncccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga 180

ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc 240

caccnncntn ancccaaaag ncctggactg nacagngagc ngctntactg ggagctnagc 300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360

gtcaatggtt tcacccatca gacctttgcg cccaacacca gcactcctgg gacctccaca 420

gtggaccttg ggacctcagg gactccatcc tccctcccca gccctaca 468

<210> 138

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 138
tctgctggcc ctctcctggt gccattcacc ctcaacttca ccatcaccaa cctgcagtac 60

gaggaggaca tgcatcaccc aggctccagg aagttcaaca ccacggagcg ggtcctgcag 120

ggtctgcttg gtcccatgtt caagaacacc agtgtcggcc ttctgtactc tggctgcaga 180

ctgaccttgc tcaggcctga gaagaatggg gcagccacca gagtggatgc tgtctgcacc 240

catcgtcctg accccaaaag ccctggactg nacagngagc ngctntactg ggagctnagc 300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat 360

gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca 420

gtgnacntng gnacctcngg gactccatcc tccntccccn gccncaca 468

<210> 139

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 139
ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan 60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagag ggttctgcag 120

ggtctgctca agcccttgtt caagagcacc agtgttggcc ctctgtattc tggctgcaga 180

ctgaccttgc tcaggcctga gaaggacgga gtagccacca gagtggacgc catctgcacc 240

caccgccctg accccaaaat ccctgggcta gacagacagc agctatactg ggagctgagc 300

cagctgaccc acagcatcac tgagctggga ccctacaccc tggataggga cagtctctat 360

gtcaatggtt tcacccagcg gagctctgtg cccaccacca gcactcctgg gactttcaca 420

gtacagccgg aaacctctga gactccatca tccctccctg gccccaca 468

<210> 140

<211> 468

<212> DNA

<213> Homo sapiens

<400> 140
gccactggcc ctgtcctgct gccattcacc ctcaatttta ccatcactaa cctgcagtat 60

gaggaggaca tgcatcgccc tggctccagg aagttcaaca ccacggagag ggtccttcag 120

ggtctgctta tgcccttgtt caagaacacc agtgtcagct ctctgtactc tggttgcaga 180

ctgaccttgc tcaggcctga gaaggatggg gcagccacca gagtggatgc tgtctgcacc 240

catcgtcctg accccaaaag ccctggactg gacagagagc ggctgtactg gaagctgagc 300

cagctgaccc acggcatcac tgagctgggc ccctacaccc tggacaggca cagtctctat 360

gtcaatggtt tcacccatca gagctctatg acgaccacca gaactcctga tacctccaca 420

atgcacctgg caacctcgag aactccagcc tccctgtctg gacctacg 468

<210> 141

<211> 468

<212> DNA

<213> Homo sapiens

<400> 141

accgccagcc ctctcctggt gctattcaca attaacttca ccatcactaa cctgcggtat 60

gaggagaaca tgcatcaccc tggctctaga aagtttaaca ccacggagag agtccttcag 120

ggtctgctca ggcctgtgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga 180

ctgaccttgc tcaggcccaa gaaggatggg gcagccacca aagtggatgc catctgcacc 240

taccgccctg atcccaaaag ccctggactg gacagagagc agctatactg ggagctgagc 300

cagctaaccc acagcatcac tgagctgggc ccctacaccc tggacaggga cagtctctat 360

gtcaatggtt tcacacagcg gagctctgtg cccaccacta gcattcctgg gacccccaca 420

gtggacctgg gaacatctgg gactccagtt tctaaacctg gtccctcg 468

<210> 142

<211> 468

<212> DNA

<213> Homo sapiens

<400> 142

gctgccagcc ctctcctggt gctattcact ctcaacttca ccatcaccaa cctgcggtat 60

gaggagaaca tgcagcaccc tggctccagg aagttcaaca ccacggagag ggtccttcag 120

ggcctgctca ggtccctgtt caagagcacc agtgttggcc ctctgtactc tggctgcaga 180

ctgactttgc tcaggcctga aaaggatggg acagccactg gagtggatgc catctgcacc 240

caccaccctg accccaaaag ccctaggctg gacagagagc agctgtattg ggagctgagc 300

cagctgaccc acaatatcac tgagctgggc cactatgccc tggacaacga cagcctcttt 360

gtcaatggtt tcactcatcg gagctctgtg tccaccacca gcactcctgg gacccccaca 420

gtgtatctgg gagcatctaa gactccagcc tcgatatttg gcccttca 468

<210> 143

<211> 399

<212> DNA

<213> Homo sapiens

<400> 143
```
gctgccagcc atctcctgat actattcacc ctcaacttca ccatcactaa cctgcggtat      60

gaggagaaca tgtggcctgg ctccaggaag ttcaacacta cagagagggt ccttcagggc     120

ctgctaaggc ccttgttcaa gaacaccagt gttggccctc tgtactctgg ctccaggctg     180

accttgctca ggccagagaa agatggggaa gccaccggag tggatgccat ctgcacccac     240

cgccctgacc ccacaggccc tgggctggac agagagcagc tgtatttgga gctgagccag     300

ctgacccaca gcatcactga gctgggcccc tacacactgg acagggacag tctctatgtc     360

aatggtttca cccatcggag ctctgtaccc accaccagc                             399
```

<210> 144

<211> 453

<212> DNA

<213> Homo sapiens

<400> 144
```
accggggtgg tcagcgagga gccattcaca ctgaacttca ccatcaacaa cctgcgctac      60

atggcggaca tgggccaacc cggctccctc aagttcaaca tcacagacaa cgtcatgaag     120

cacctgctca gtcctttgtt ccagaggagc agcctgggtg cacggtacac aggctgcagg     180

gtcatcgcac taaggtctgt gaagaacggt gctgagacac gggtggacct cctctgcacc     240

tacctgcagc ccctcagcgg cccaggtctg cctatcaagc aggtgttcca tgagctgagc     300

cagcagaccc atggcatcac ccggctgggc ccctactctc tggacaaaga cagcctctac     360

cttaacggtt acaatgaacc tggtctagat gagcctccta caactcccaa gccagccacc     420

acattcctgc ctcctctgtc agaagccaca aca                                  453
```

<210> 145

<211> 465

<212> DNA

<213> Homo sapiens

<400> 145
gccatggggt accacctgaa gaccctcaca ctcaacttca ccatctccaa tctccagtat 60

tcaccagata tgggcaaggg ctcagctaca ttcaactcca ccgaggggt ccttcagcac 120

ctgctcagac ccttgttcca gaagagcagc atgggcccct tctacttggg ttgccaactg 180

atctccctca ggcctgagaa ggatggggca gccactggtg tggacaccac ctgcacctac 240

caccctgacc ctgtgggccc cgggctggac atacagcagc tttactggga gctgagtcag 300

ctgacccatg gtgtcaccca actgggcttc tatgtcctgg acagggatag cctcttcatc 360

aatggctatg caccccagaa tttatcaatc cggggcgagt accagataaa tttccacatt 420

gtcaactgga acctcagtaa tccagacccc acatcctcag agtac 465

<210> 146

<211> 9799

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> (1)..(9799)

<223> Any "X" = any amino acid

<400> 146

Ala Thr Val Pro Phe Met Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe
20 25 30

Asn Ala Thr Glu Arg Glu Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg
35 40 45

Asn Ser Ser Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu
50 55 60

Arg Pro Glu Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr
65   70   75   80

His Arg Pro Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr
                85   90   95

Trp Glu Leu Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr
            100   105   110

Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser
        115   120   125

Ser Met Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly
    130   135   140

Thr Ser Gly Thr Pro Ser Ser Ser Pro Ser Pro Thr Ala Ala Gly Pro
145   150   155   160

Leu Leu Met Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr
                165   170   175

Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu
            180   185   190

Ser Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val
        195   200   205

Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys
    210   215   220

Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp
225   230   235   240

Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser
                245   250   255

Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg
            260   265   270

Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr
        275   280   285

Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr
    290   295   300

Pro Ser Ser Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu
305   310   315   320

Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Gly Glu
                325   330   335

Asp Met Gly His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val
            340   345   350

Leu Gln Gly Leu Leu Gly Pro Ile Phe Lys Asn Thr Ser Val Gly Pro
        355   360   365

Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Ser Glu Lys Asp Gly

370 375 380

Ala Ala Thr Gly Val Asp Ala Ile Cys Ile His His Leu Asp Pro Lys
385 390 395 400

Ser Pro Gly Leu Asn Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu
405 410 415

Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser
420 425 430

Leu Tyr Val Asn Gly Phe Thr His Arg Thr Ser Val Pro Thr Ser Ser
435 440 445

Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Phe
450 455 460

Ser Leu Pro Ser Pro Ala Thr Ala Gly Pro Leu Leu Val Leu Phe Thr
465 470 475 480

Leu Asn Phe Thr Ile Thr Asn Leu Lys Tyr Glu Glu Asp Met His Arg
485 490 495

Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Thr Leu
500 505 510

Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly
515 520 525

Cys Arg Leu Thr Leu Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly
530 535 540

Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu
545 550 555 560

Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile
565 570 575

Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn
580 585 590

Gly Phe Thr His Trp Ile Pro Val Pro Thr Ser Ser Thr Pro Gly Thr
595 600 605

Ser Thr Val Asp Leu Gly Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro
610 615 620

Thr Ala Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile
625 630 635 640

Thr Asn Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys
645 650 655

Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe
660 665 670

Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu
675 680 685

```
Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys
    690                 695                 700

Thr His Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu
705                 710                 715                 720

Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro
                725                 730                 735

Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln
            740                 745                 750

Thr Ser Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu
        755                 760                 765

Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly
    770                 775                 780

Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln
785                 790                 795                 800

Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr
                805                 810                 815

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
            820                 825                 830

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Ser Glu
        835                 840                 845

Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu
    850                 855                 860

Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu
865                 870                 875                 880

Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp
                885                 890                 895

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr Ser Ala Pro
            900                 905                 910

Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly
        915                 920                 925

Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu Leu Val
    930                 935                 940

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
945                 950                 955                 960

Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
                965                 970                 975

Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu
            980                 985                 990

Tyr Ser Gly Cys Arg Leu Thr Leu  Leu Arg Pro Glu Lys  Asn Gly Ala
        995                 1000                 1005
```

```
Ala Thr Gly Met Asp Ala Ile Cys Ser His Arg Leu Asp Pro Lys
    1010                1015                1020

Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln
    1025                1030                1035

Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg
    1040                1045                1050

Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala
    1055                1060                1065

Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser
    1070                1075                1080

Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala Val Pro Leu
    1085                1090                1095

Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr
    1100                1105                1110

Gly Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr
    1115                1120                1125

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Leu Phe Lys Asn Ser
    1130                1135                1140

Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Ile Ser Leu Arg
    1145                1150                1155

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr
    1160                1165                1170

His His Leu Asn Pro Gln Ser Pro Gly Leu Asp Arg Glu Gln Leu
    1175                1180                1185

Tyr Trp Gln Leu Ser Gln Met Thr Asn Gly Ile Lys Glu Leu Gly
    1190                1195                1200

Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr
    1205                1210                1215

His Arg Ser Ser Gly Leu Thr Thr Ser Thr Pro Trp Thr Ser Thr
    1220                1225                1230

Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Pro Val Pro Ser Pro
    1235                1240                1245

Thr Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr
    1250                1255                1260

Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser
    1265                1270                1275

Arg Lys Phe Asn Ala Thr Glu Arg Val Leu Gln Gly Leu Leu Ser
    1280                1285                1290

Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys
```

1295 1300 1305

Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly
1310 1315 1320

Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro Gly
1325 1330 1335

Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His
1340 1345 1350

Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu
1355 1360 1365

Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser
1370 1375 1380

Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro
1385 1390 1395

Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro
1400 1405 1410

Phe Thr Phe Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn
1415 1420 1425

Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val
1430 1435 1440

Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly
1445 1450 1455

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys
1460 1465 1470

Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro
1475 1480 1485

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Cys Glu
1490 1495 1500

Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser
1505 1510 1515

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn
1520 1525 1530

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp
1535 1540 1545

Ala Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro
1550 1555 1560

Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr Asn
1565 1570 1575

Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
1580 1585 1590

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe
1595 1600 1605

Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr
1610 1615 1620

Leu Leu Arg Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr
1625 1630 1635

Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg
1640 1645 1650

Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr
1655 1660 1665

Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn
1670 1675 1680

Gly Phe Asn Pro Arg Ser Ser Val Pro Thr Thr Ser Thr Pro Gly
1685 1690 1695

Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu
1700 1705 1710

Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu
1715 1720 1725

Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn Met Gln His
1730 1735 1740

Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly
1745 1750 1755

Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr
1760 1765 1770

Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Glu Ala
1775 1780 1785

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile
1790 1795 1800

Gly Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa
1805 1810 1815

Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg
1820 1825 1830

Xaa Ser Leu Tyr Val Asn Gly Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1835 1840 1845

Xaa Thr Ser Thr Pro Gly Thr Ser Xaa Val Xaa Leu Xaa Thr Ser
1850 1855 1860

Gly Thr Pro Xaa Xaa Xaa Pro Xaa Xaa Thr Ser Ala Gly Pro Leu
1865 1870 1875

Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr
1880 1885 1890

Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr
1895 1900 1905

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr
1910 1915 1920

Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg
1925 1930 1935

Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser
1940 1945 1950

His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu
1955 1960 1965

Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly
1970 1975 1980

Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr
1985 1990 1995

His Arg Ser Ser Val Ala Pro Thr Ser Thr Pro Gly Thr Ser Thr
2000 2005 2010

Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro
2015 2020 2025

Thr Thr Ala Val Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr
2030 2035 2040

Ile Thr Asn Leu Gln Tyr Gly Glu Asp Met Arg His Pro Gly Ser
2045 2050 2055

Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly
2060 2065 2070

Pro Leu Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys
2075 2080 2085

Arg Leu Ile Ser Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly
2090 2095 2100

Val Asp Ala Ile Cys Thr His His Leu Asn Pro Gln Ser Pro Gly
2105 2110 2115

Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu Ser Gln Met Thr Asn
2120 2125 2130

Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
2135 2140 2145

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu Thr Thr Ser
2150 2155 2160

Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro
2165 2170 2175

Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Val Pro

2180 2185 2190

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
2195 2200 2205

Met His Arg Pro Gly Ser Arg Lys Phe Asn Ala Thr Glu Arg Val
2210 2215 2220

Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly
2225 2230 2235

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys
2240 2245 2250

Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro
2255 2260 2265

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu
2270 2275 2280

Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser
2285 2290 2295

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser
2300 2305 2310

Ser Met Thr Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu
2315 2320 2325

Ala Thr Ser Arg Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala
2330 2335 2340

Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Cys Thr Ile Thr Asn
2345 2350 2355

Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe
2360 2365 2370

Asn Thr Met Glu Ser Val Leu Gln Gly Leu Leu Lys Pro Leu Phe
2375 2380 2385

Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr
2390 2395 2400

Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Gly Val Asp Ala
2405 2410 2415

Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg
2420 2425 2430

Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu
2435 2440 2445

Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn
2450 2455 2460

Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr Pro Gly
2465 2470 2475

Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser Leu
2480 2485 2490

Ser Ser Pro Thr Ile Met Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe
2495 2500 2505

Thr Leu Asn Phe Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met
2510 2515 2520

Xaa Xaa Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
2525 2530 2535

Gln Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser Val Ser Ser
2540 2545 2550

Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp
2555 2560 2565

Gly Ala Ala Thr Arg Val Asp Ala Ala Cys Thr Tyr Arg Pro Asp
2570 2575 2580

Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
2585 2590 2595

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu
2600 2605 2610

Asp Arg Val Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser Ser
2615 2620 2625

Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala
2630 2635 2640

Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val
2645 2650 2655

Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu
2660 2665 2670

His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe Asn
2675 2680 2685

Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe Lys
2690 2695 2700

Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu
2705 2710 2715

Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile
2720 2725 2730

Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu
2735 2740 2745

Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu
2750 2755 2760

Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly
2765 2770 2775

Phe Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr
2780 2785 2790

Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro
2795 2800 2805

Gly His Thr Ala Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn
2810 2815 2820

Phe Thr Ile Thr Asn Leu Gln Tyr Glu Val Asp Met Arg His Pro
2825 2830 2835

Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
2840 2845 2850

Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser
2855 2860 2865

Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala Ala
2870 2875 2880

Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn
2885 2890 2895

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu
2900 2905 2910

Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly
2915 2920 2925

Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile
2930 2935 2940

Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu
2945 2950 2955

Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu
2960 2965 2970

Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu
2975 2980 2985

Glu Ala Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu
2990 2995 3000

Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser
3005 3010 3015

Ile Gly Pro Leu Tyr Ser Ser Cys Arg Leu Thr Leu Leu Arg Pro
3020 3025 3030

Glu Lys Asp Lys Ala Ala Thr Arg Val Asp Ala Ile Cys Thr His
3035 3040 3045

His Pro Asp Pro Gln Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr
3050 3055 3060

Trp Glu Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro

3065 3070 3075

Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asp Gly Phe Thr His
3080 3085 3090

Trp Ser Pro Ile Pro Thr Thr Ser Thr Pro Gly Thr Ser Ile Val
3095 3100 3105

Asn Leu Gly Thr Ser Gly Ile Pro Pro Ser Leu Pro Glu Thr Thr
3110 3115 3120

Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe Thr Leu Asn Phe Thr Ile
3125 3130 3135

Thr Asn Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa Pro Gly Ser Arg
3140 3145 3150

Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro
3155 3160 3165

Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu Tyr Ser Gly Cys Arg
3170 3175 3180

Leu Ala Ser Leu Arg Pro Glu Lys Asp Ser Ser Ala Met Ala Val
3185 3190 3195

Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu Asp Leu Gly Leu
3200 3205 3210

Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn Leu Thr Asn Gly
3215 3220 3225

Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr
3230 3235 3240

Val Asn Gly Phe Thr His Arg Ser Ser Phe Leu Thr Thr Ser Thr
3245 3250 3255

Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser
3260 3265 3270

Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Val Pro Phe
3275 3280 3285

Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met
3290 3295 3300

His Arg Pro Gly Ser Arg Arg Phe Asn Thr Thr Glu Arg Val Leu
3305 3310 3315

Gln Gly Leu Leu Thr Pro Leu Phe Lys Asn Thr Ser Val Gly Pro
3320 3325 3330

Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln
3335 3340 3345

Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val Asp
3350 3355 3360

Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
3365 3370 3375

Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu
3380 3385 3390

Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser Ser
3395 3400 3405

Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala
3410 3415 3420

Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val
3425 3430 3435

Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asp Leu
3440 3445 3450

His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe Asn
3455 3460 3465

Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys
3470 3475 3480

Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu
3485 3490 3495

Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile
3500 3505 3510

Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu
3515 3520 3525

Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu
3530 3535 3540

Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly
3545 3550 3555

Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr
3560 3565 3570

Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro
3575 3580 3585

Gly His Thr Ala Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn
3590 3595 3600

Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro
3605 3610 3615

Gly Ser Arg Lys Phe Ser Thr Thr Glu Arg Val Leu Gln Gly Leu
3620 3625 3630

Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser
3635 3640 3645

Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala
3650 3655 3660

Thr Arg Val Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys Ser
3665 3670 3675

Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu
3680 3685 3690

Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg His
3695 3700 3705

Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr Thr
3710 3715 3720

Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg
3725 3730 3735

Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu
3740 3745 3750

Val Leu Phe Thr Ile Asn Phe Thr Ile Thr Asn Gln Arg Tyr Glu
3755 3760 3765

Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu
3770 3775 3780

Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser
3785 3790 3795

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro
3800 3805 3810

Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr
3815 3820 3825

Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr
3830 3835 3840

Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro
3845 3850 3855

Tyr Thr Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His
3860 3865 3870

Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val
3875 3880 3885

His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His Thr
3890 3895 3900

Ala Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile
3905 3910 3915

Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg
3920 3925 3930

Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro
3935 3940 3945

Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg

3950 3955 3960

Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala Ala Thr Gly Val
3965 3970 3975

Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn Pro Gly Leu
3980 3985 3990

Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Arg Gly
3995 4000 4005

Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu Tyr
4010 4015 4020

Val Asn Gly Phe Thr His Arg Thr Ser Val Pro Thr Thr Ser Thr
4025 4030 4035

Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Phe
4040 4045 4050

Ser Leu Pro Ser Pro Ala Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe
4055 4060 4065

Thr Leu Asn Phe Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met
4070 4075 4080

Xaa Xaa Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
4085 4090 4095

Gln Thr Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu
4100 4105 4110

Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Ser Glu Lys Asp
4115 4120 4125

Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp
4130 4135 4140

Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu
4145 4150 4155

Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu
4160 4165 4170

Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Trp Ile Pro
4175 4180 4185

Val Pro Thr Ser Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly
4190 4195 4200

Ser Gly Thr Pro Ser Leu Pro Ser Ser Pro Thr Thr Ala Gly Pro
4205 4210 4215

Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys
4220 4225 4230

Tyr Glu Glu Asp Met His Cys Pro Gly Ser Arg Lys Phe Asn Thr
4235 4240 4245

Thr Glu Arg Val Leu Gln Ser Leu Leu Gly Pro Met Phe Lys Asn
4250 4255 4260

Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu
4265 4270 4275

Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys
4280 4285 4290

Thr His Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln
4295 4300 4305

Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu
4310 4315 4320

Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe
4325 4330 4335

Thr His Gln Thr Ser Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser
4340 4345 4350

Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser
4355 4360 4365

Pro Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe Thr Leu Asn Phe
4370 4375 4380

Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa Pro Gly
4385 4390 4395

Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu
4400 4405 4410

Xaa Pro Xaa Phe Lys Xaa Thr Ser Val Gly Xaa Leu Tyr Ser Gly
4415 4420 4425

Cys Arg Leu Thr Leu Leu Arg Xaa Glu Lys Xaa Xaa Ala Ala Thr
4430 4435 4440

Xaa Val Asp Xaa Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Pro
4445 4450 4455

Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr
4460 4465 4470

Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser
4475 4480 4485

Leu Tyr Val Asn Gly Phe Thr His Trp Ile Pro Val Pro Thr Ser
4490 4495 4500

Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Ser Gly Thr Pro
4505 4510 4515

Ser Ser Leu Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Val Pro
4520 4525 4530

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys Tyr Glu Glu Asp
4535 4540 4545

Met His Cys Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val
4550 4555 4560

Leu Gln Ser Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly
4565 4570 4575

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Ser Glu Lys
4580 4585 4590

Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Val
4595 4600 4605

Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu
4610 4615 4620

Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr
4625 4630 4635

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr
4640 4645 4650

Ser Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu
4655 4660 4665

Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala
4670 4675 4680

Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn
4685 4690 4695

Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe
4700 4705 4710

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe
4715 4720 4725

Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr
4730 4735 4740

Leu Leu Arg Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala
4745 4750 4755

Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp Arg
4760 4765 4770

Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa
4775 4780 4785

Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn
4790 4795 4800

Gly Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly
4805 4810 4815

Thr Ser Xaa Val Xaa Leu Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa
4820 4825 4830

Pro Xaa Xaa Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe Thr Leu

4835 4840 4845

Asn Phe Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa
4850 4855 4860

Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly
4865 4870 4875

Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu Tyr
4880 4885 4890

Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu Lys Asp Ser Ser
4895 4900 4905

Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu
4910 4915 4920

Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn
4925 4930 4935

Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg
4940 4945 4950

Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro
4955 4960 4965

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser
4970 4975 4980

Gly Thr Pro Ser Ser Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu
4985 4990 4995

Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr
5000 5005 5010

Gly Glu Asp Met Gly His Pro Gly Ser Arg Lys Phe Asn Thr Thr
5015 5020 5025

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Ile Phe Lys Asn Thr
5030 5035 5040

Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg
5045 5050 5055

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Ile
5060 5065 5070

His His Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Arg Leu
5075 5080 5085

Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly
5090 5095 5100

Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr
5105 5110 5115

His Arg Thr Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr
5120 5125 5130

Val Asp Leu Gly Thr Ser Gly Thr Pro Phe Ser Leu Pro Ser Pro
5135 5140 5145

Ala Thr Ala Gly Pro Leu Leu Val Leu Phe Thr Leu Asn Phe Thr
5150 5155 5160

Ile Thr Asn Leu Lys Tyr Glu Glu Asp Met His Arg Pro Gly Ser
5165 5170 5175

Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Thr Leu Leu Gly
5180 5185 5190

Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys
5195 5200 5205

Arg Leu Thr Leu Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly
5210 5215 5220

Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly
5225 5230 5235

Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa
5240 5245 5250

Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu
5255 5260 5265

Tyr Val Asn Gly Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser
5270 5275 5280

Thr Pro Gly Thr Ser Xaa Val Xaa Leu Xaa Thr Ser Gly Thr Pro
5285 5290 5295

Xaa Xaa Xaa Pro Xaa Xaa Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro
5300 5305 5310

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa
5315 5320 5325

Met Xaa Xaa Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val
5330 5335 5340

Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly
5345 5350 5355

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys
5360 5365 5370

Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro
5375 5380 5385

Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu
5390 5395 5400

Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr
5405 5410 5415

Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser
5420 5425 5430

Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu
5435 5440 5445

Glu Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro
5450 5455 5460

Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr Asn
5465 5470 5475

Leu Arg Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
5480 5485 5490

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Thr Pro Leu Phe
5495 5500 5505

Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr
5510 5515 5520

Leu Leu Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly Val Asp Thr
5525 5530 5535

Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg
5540 5545 5550

Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr
5555 5560 5565

Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asp
5570 5575 5580

Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly
5585 5590 5595

Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Pro Leu
5600 5605 5610

Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu
5615 5620 5625

Asn Phe Thr Ile Thr Asp Leu His Tyr Glu Glu Asn Met Gln His
5630 5635 5640

Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly
5645 5650 5655

Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr
5660 5665 5670

Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala
5675 5680 5685

Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr
5690 5695 5700

Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln
5705 5710 5715

Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg

5720 5725 5730

Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser Ser Val Pro
5735 5740 5745

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser
5750 5755 5760

Gly Thr Pro Ser Ser Leu Pro Gly His Thr Thr Ala Gly Pro Leu
5765 5770 5775

Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys Tyr
5780 5785 5790

Glu Glu Asp Met His Cys Pro Gly Ser Arg Lys Phe Asn Thr Thr
5795 5800 5805

Glu Arg Val Leu Gln Ser Leu His Gly Pro Met Phe Lys Asn Thr
5810 5815 5820

Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg
5825 5830 5835

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr
5840 5845 5850

His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Xaa Leu
5855 5860 5865

Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly
5870 5875 5880

Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn Gly Phe Xaa
5885 5890 5895

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly Thr Ser Xaa
5900 5905 5910

Val Xaa Leu Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa Pro Xaa Xaa
5915 5920 5925

Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe Thr Leu Asn Phe Thr
5930 5935 5940

Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa Pro Gly Ser
5945 5950 5955

Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Xaa
5960 5965 5970

Pro Xaa Phe Lys Xaa Thr Ser Val Gly Xaa Leu Tyr Ser Gly Cys
5975 5980 5985

Arg Leu Thr Leu Leu Arg Xaa Glu Lys Xaa Xaa Ala Ala Thr Xaa
5990 5995 6000

Val Asp Xaa Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Pro Gly
6005 6010 6015

Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Asn
6020 6025 6030

Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu
6035 6040 6045

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser
6050 6055 6060

Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro
6065 6070 6075

Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Val Pro
6080 6085 6090

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
6095 6100 6105

Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val
6110 6115 6120

Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly
6125 6130 6135

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys
6140 6145 6150

Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu
6155 6160 6165

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu
6170 6175 6180

Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa
6185 6190 6195

Leu Asp Arg Xaa Ser Leu Tyr Val Asn Gly Phe Xaa Xaa Xaa Xaa
6200 6205 6210

Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly Thr Ser Xaa Val Xaa Leu
6215 6220 6225

Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa Pro Xaa Xaa Thr Xaa Xaa
6230 6235 6240

Xaa Pro Leu Leu Xaa Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn
6245 6250 6255

Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa Pro Gly Ser Arg Lys Phe
6260 6265 6270

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Xaa Pro Xaa Phe
6275 6280 6285

Lys Xaa Thr Ser Val Gly Xaa Leu Tyr Ser Gly Cys Arg Leu Thr
6290 6295 6300

Leu Leu Arg Xaa Glu Lys Xaa Xaa Ala Ala Thr Xaa Val Asp Xaa
6305 6310 6315

```
Xaa Cys  Xaa Xaa Xaa Xaa Asp  Pro Xaa Xaa Pro Gly  Leu Asp Arg
    6320                 6325                 6330

Glu Xaa  Leu Tyr Trp Glu Leu  Ser Xaa Leu Thr Xaa  Xaa Ile Xaa
    6335                 6340                 6345

Glu Leu  Gly Pro Tyr Xaa Leu  Asp Arg Xaa Ser Leu  Tyr Val Asn
    6350                 6355                 6360

Gly Phe  His Pro Arg Ser Ser  Val Pro Thr Thr Ser  Thr Pro Gly
    6365                 6370                 6375

Thr Ser  Thr Val His Leu Ala  Thr Ser Gly Thr Pro  Ser Ser Leu
    6380                 6385                 6390

Pro Gly  His Thr Ala Pro Val  Pro Leu Leu Ile Pro  Phe Thr Leu
    6395                 6400                 6405

Asn Phe  Thr Ile Thr Asn Leu  His Tyr Glu Glu Asn  Met Gln His
    6410                 6415                 6420

Pro Gly  Ser Arg Lys Phe Asn  Thr Thr Glu Arg Val  Leu Gln Gly
    6425                 6430                 6435

Leu Leu  Gly Pro Met Phe Lys  Asn Thr Ser Val Gly  Leu Leu Tyr
    6440                 6445                 6450

Ser Gly  Cys Arg Leu Thr Leu  Leu Arg Pro Glu Lys  Asn Gly Ala
    6455                 6460                 6465

Ala Thr  Gly Met Asp Ala Ile  Cys Ser His Arg Leu  Asp Pro Lys
    6470                 6475                 6480

Ser Pro  Gly Leu Asp Arg Glu  Xaa Leu Tyr Trp Glu  Leu Ser Xaa
    6485                 6490                 6495

Leu Thr  Xaa Xaa Ile Xaa Glu  Leu Gly Pro Tyr Xaa  Leu Asp Arg
    6500                 6505                 6510

Xaa Ser  Leu Tyr Val Asn Gly  Phe Xaa Xaa Xaa Xaa  Xaa Xaa Xaa
    6515                 6520                 6525

Xaa Thr  Ser Thr Pro Gly Thr  Ser Xaa Val Xaa Leu  Xaa Thr Ser
    6530                 6535                 6540

Gly Thr  Pro Xaa Xaa Xaa Pro  Xaa Xaa Thr Xaa Xaa  Xaa Pro Leu
    6545                 6550                 6555

Leu Xaa  Pro Phe Thr Leu Asn  Phe Thr Ile Thr Asn  Leu Xaa Tyr
    6560                 6565                 6570

Glu Glu  Xaa Met Xaa Xaa Pro  Gly Ser Arg Lys Phe  Asn Thr Thr
    6575                 6580                 6585

Glu Arg  Val Leu Gln Gly Leu  Leu Xaa Pro Xaa Phe  Lys Xaa Thr
    6590                 6595                 6600

Ser Val  Gly Xaa Leu Tyr Ser  Gly Cys Arg Leu Thr  Leu Leu Arg
```

6605 6610 6615

Xaa Glu Lys Xaa Xaa Ala Ala Thr Xaa Val Asp Xaa Xaa Cys Xaa
6620 6625 6630

Xaa Xaa Xaa Asp Pro Xaa Xaa Pro Gly Leu Asp Arg Glu Xaa Leu
6635 6640 6645

Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly
6650 6655 6660

Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn Gly Phe Thr
6665 6670 6675

His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr
6680 6685 6690

Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His
6695 6700 6705

Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr
6710 6715 6720

Ile Thr Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser
6725 6730 6735

Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Thr
6740 6745 6750

Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys
6755 6760 6765

Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly
6770 6775 6780

Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly
6785 6790 6795

Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa
6800 6805 6810

Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu
6815 6820 6825

Tyr Val Asn Gly Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser
6830 6835 6840

Thr Pro Gly Thr Ser Xaa Val Xaa Leu Xaa Thr Ser Gly Thr Pro
6845 6850 6855

Xaa Xaa Xaa Pro Xaa Xaa Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro
6860 6865 6870

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa
6875 6880 6885

Met Xaa Xaa Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val
6890 6895 6900

Leu Gln Gly Leu Leu Xaa Pro Xaa Phe Lys Xaa Thr Ser Val Gly
6905 6910 6915

Xaa Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Xaa Glu Lys
6920 6925 6930

Xaa Xaa Ala Ala Thr Xaa Val Asp Xaa Xaa Cys Xaa Xaa Xaa Xaa
6935 6940 6945

Asp Pro Xaa Xaa Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu
6950 6955 6960

Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa
6965 6970 6975

Leu Asp Arg Xaa Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser
6980 6985 6990

Ser Val Pro Thr Thr Ser Ser Pro Gly Thr Ser Thr Val His Leu
6995 7000 7005

Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro
7010 7015 7020

Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn
7025 7030 7035

Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
7040 7045 7050

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe
7055 7060 7065

Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr
7070 7075 7080

Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala
7085 7090 7095

Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg
7100 7105 7110

Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa
7115 7120 7125

Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn
7130 7135 7140

Gly Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly
7145 7150 7155

Thr Ser Xaa Val Xaa Leu Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa
7160 7165 7170

Pro Xaa Xaa Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe Thr Leu
7175 7180 7185

Asn Phe Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa
7190 7195 7200

Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly
7205 7210 7215

Leu Leu Xaa Pro Xaa Phe Lys Xaa Thr Ser Val Gly Xaa Leu Tyr
7220 7225 7230

Ser Gly Cys Arg Leu Thr Leu Leu Arg Xaa Glu Lys Xaa Xaa Ala
7235 7240 7245

Ala Thr Xaa Val Asp Xaa Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa
7250 7255 7260

Xaa Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa
7265 7270 7275

Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg
7280 7285 7290

Xaa Ser Leu Tyr Val Asn Gly Phe Thr His Arg Thr Ser Val Pro
7295 7300 7305

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser
7310 7315 7320

Gly Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro Leu
7325 7330 7335

Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr
7340 7345 7350

Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr
7355 7360 7365

Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser
7370 7375 7380

Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg
7385 7390 7395

Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu
7400 7405 7410

Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu
7415 7420 7425

Tyr Cys Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly
7430 7435 7440

Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr
7445 7450 7455

His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr
7460 7465 7470

Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His
7475 7480 7485

Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe Thr Leu Asn Phe Thr

```
    7490                    7495                    7500

Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa Pro Gly Ser
    7505                    7510                    7515

Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Xaa
    7520                    7525                    7530

Pro Xaa Phe Lys Xaa Thr Ser Val Gly Xaa Leu Tyr Ser Gly Cys
    7535                    7540                    7545

Arg Leu Thr Leu Leu Arg Xaa Glu Lys Xaa Xaa Ala Ala Thr Xaa
    7550                    7555                    7560

Val Asp Xaa Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Pro Gly
    7565                    7570                    7575

Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa
    7580                    7585                    7590

Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu
    7595                    7600                    7605

Tyr Val Asn Gly Phe Thr His Trp Ser Ser Gly Leu Thr Thr Ser
    7610                    7615                    7620

Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro
    7625                    7630                    7635

Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Val Pro
    7640                    7645                    7650

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
    7655                    7660                    7665

Met His Arg Pro Gly Ser Arg Lys Phe Asn Ala Thr Glu Arg Val
    7670                    7675                    7680

Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Thr Ser Val Gly
    7685                    7690                    7695

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys
    7700                    7705                    7710

Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val
    7715                    7720                    7725

Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu
    7730                    7735                    7740

Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa
    7745                    7750                    7755

Leu Asp Arg Xaa Ser Leu Tyr Val Asn Gly Phe Xaa Xaa Xaa Xaa
    7760                    7765                    7770

Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly Thr Ser Xaa Val Xaa Leu
    7775                    7780                    7785
```

Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa Pro Xaa Xaa Thr Xaa Xaa
7790 7795 7800

Xaa Pro Leu Leu Xaa Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn
7805 7810 7815

Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa Pro Gly Ser Arg Lys Phe
7820 7825 7830

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Xaa Pro Xaa Phe
7835 7840 7845

Lys Xaa Thr Ser Val Gly Xaa Leu Tyr Ser Gly Cys Arg Leu Thr
7850 7855 7860

Leu Leu Arg Xaa Glu Lys Xaa Xaa Ala Ala Thr Xaa Val Asp Xaa
7865 7870 7875

Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Pro Gly Leu Asp Arg
7880 7885 7890

Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa
7895 7900 7905

Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn
7910 7915 7920

Gly Phe Thr His Arg Ser Phe Gly Leu Thr Thr Ser Thr Pro Trp
7925 7930 7935

Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Pro Val
7940 7945 7950

Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu
7955 7960 7965

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met His Arg
7970 7975 7980

Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly
7985 7990 7995

Leu Leu Thr Pro Leu Phe Arg Asn Thr Ser Val Ser Ser Leu Tyr
8000 8005 8010

Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala
8015 8020 8025

Ala Thr Arg Val Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys
8030 8035 8040

Ser Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa
8045 8050 8055

Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg
8060 8065 8070

Xaa Ser Leu Tyr Val Asn Gly Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa
8075 8080 8085

Xaa Thr Ser Thr Pro Gly Thr Ser Xaa Val Xaa Leu Xaa Thr Ser
8090 8095 8100

Gly Thr Pro Xaa Xaa Xaa Pro Xaa Xaa Thr Xaa Xaa Xaa Pro Leu
8105 8110 8115

Leu Xaa Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Xaa Tyr
8120 8125 8130

Glu Glu Xaa Met Xaa Xaa Pro Gly Ser Arg Lys Phe Asn Thr Thr
8135 8140 8145

Glu Arg Val Leu Gln Gly Leu Leu Xaa Pro Xaa Phe Lys Xaa Thr
8150 8155 8160

Ser Val Gly Xaa Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg
8165 8170 8175

Xaa Glu Lys Xaa Xaa Ala Ala Thr Xaa Val Asp Xaa Xaa Cys Xaa
8180 8185 8190

Xaa Xaa Xaa Asp Pro Xaa Xaa Pro Gly Leu Asp Arg Glu Xaa Leu
8195 8200 8205

Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly
8210 8215 8220

Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn Gly Phe Thr
8225 8230 8235

His Trp Ile Pro Val Pro Thr Ser Ser Thr Pro Gly Thr Ser Thr
8240 8245 8250

Val Asp Leu Gly Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr
8255 8260 8265

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile
8270 8275 8280

Thr Asn Leu Gln Tyr Gly Glu Asp Met Gly His Pro Gly Ser Arg
8285 8290 8295

Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro
8300 8305 8310

Ile Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg
8315 8320 8325

Leu Thr Ser Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val
8330 8335 8340

Asp Ala Ile Cys Ile His His Leu Asp Pro Lys Ser Pro Gly Leu
8345 8350 8355

Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa
8360 8365 8370

Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr

8375 8380 8385

Val Asn Gly Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser Thr
8390 8395 8400

Pro Gly Thr Ser Xaa Val Xaa Leu Xaa Thr Ser Gly Thr Pro Xaa
8405 8410 8415

Xaa Xaa Pro Xaa Xaa Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe
8420 8425 8430

Thr Leu Asn Phe Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met
8435 8440 8445

Xaa Xaa Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
8450 8455 8460

Gln Gly Leu Leu Xaa Pro Xaa Phe Lys Xaa Thr Ser Val Gly Xaa
8465 8470 8475

Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Xaa Glu Lys Xaa
8480 8485 8490

Xaa Ala Ala Thr Xaa Val Asp Xaa Xaa Cys Xaa Xaa Xaa Xaa Asp
8495 8500 8505

Pro Xaa Xaa Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu
8510 8515 8520

Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu
8525 8530 8535

Asp Arg Xaa Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr Phe
8540 8545 8550

Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly
8555 8560 8565

Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly
8570 8575 8580

Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu
8585 8590 8595

Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe Asn
8600 8605 8610

Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys
8615 8620 8625

Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu
8630 8635 8640

Leu Arg Pro Glu Lys Asn Gly Ala Ala Thr Arg Val Asp Ala Val
8645 8650 8655

Cys Thr His Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu
8660 8665 8670

Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu
8675 8680 8685

Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn Gly
8690 8695 8700

Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly Thr
8705 8710 8715

Ser Xaa Val Xaa Leu Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa Pro
8720 8725 8730

Xaa Xaa Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe Thr Leu Asn
8735 8740 8745

Phe Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa Pro
8750 8755 8760

Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
8765 8770 8775

Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser
8780 8785 8790

Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Val Ala
8795 8800 8805

Thr Arg Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro Lys Ile
8810 8815 8820

Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp Glu Leu Ser Gln Leu
8825 8830 8835

Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp
8840 8845 8850

Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro Thr
8855 8860 8865

Thr Ser Thr Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu
8870 8875 8880

Thr Pro Ser Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu
8885 8890 8895

Leu Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu
8900 8905 8910

Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu
8915 8920 8925

Arg Val Leu Gln Gly Leu Leu Met Pro Leu Phe Lys Asn Thr Ser
8930 8935 8940

Val Ser Ser Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro
8945 8950 8955

Glu Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Val Cys Thr His
8960 8965 8970

Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr
8975 8980 8985

Trp Lys Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro
8990 8995 9000

Tyr Thr Leu Asp Arg His Ser Leu Tyr Val Asn Gly Phe Thr His
9005 9010 9015

Gln Ser Ser Met Thr Thr Thr Arg Thr Pro Asp Thr Ser Thr Met
9020 9025 9030

His Leu Ala Thr Ser Arg Thr Pro Ala Ser Leu Ser Gly Pro Thr
9035 9040 9045

Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Phe Thr Ile
9050 9055 9060

Thr Asn Leu Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg
9065 9070 9075

Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Arg Pro
9080 9085 9090

Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg
9095 9100 9105

Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Lys Val
9110 9115 9120

Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu
9125 9130 9135

Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser
9140 9145 9150

Ile Thr Glu Leu Gly Pro Tyr Thr Gln Asp Arg Asp Ser Leu Tyr
9155 9160 9165

Asn Val Gly Phe Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Val
9170 9175 9180

Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Val
9185 9190 9195

Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Val Leu Phe
9200 9205 9210

Thr Leu Asn Gly Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn Met
9215 9220 9225

Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
9230 9235 9240

Gln Gly Leu Leu Arg Ser Leu Phe Lys Ser Thr Ser Val Gly Pro
9245 9250 9255

Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp

9260 9265 9270

Gly Thr Ala Thr Gly Val Asp Ala Ile Cys Thr His His Pro Asp
9275 9280 9285

Pro Lys Ser Pro Arg Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
9290 9295 9300

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly His Tyr Ala Leu
9305 9310 9315

Asp Asn Asp Ser Leu Phe Val Asn Gly Phe Thr His Arg Ser Ser
9320 9325 9330

Val Ser Thr Thr Ser Thr Pro Gly Thr Pro Thr Val Tyr Leu Gly
9335 9340 9345

Ala Ser Lys Thr Pro Ala Ser Ile Phe Gly Pro Ser Ala Ala Ser
9350 9355 9360

His Leu Leu Ile Leu Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu
9365 9370 9375

Arg Tyr Glu Glu Asn Met Trp Pro Gly Ser Arg Lys Phe Asn Thr
9380 9385 9390

Thr Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe Lys Asn
9395 9400 9405

Thr Ser Val Gly Pro Leu Tyr Ser Gly Ser Arg Leu Thr Leu Leu
9410 9415 9420

Arg Pro Glu Lys Asp Gly Glu Ala Thr Gly Val Asp Ala Ile Cys
9425 9430 9435

Thr His Arg Pro Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Gln
9440 9445 9450

Leu Tyr Leu Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu
9455 9460 9465

Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe
9470 9475 9480

Thr His Arg Ser Ser Val Pro Thr Thr Ser Thr Gly Val Val Ser
9485 9490 9495

Glu Glu Pro Phe Thr Leu Asn Phe Thr Ile Asn Asn Leu Arg Tyr
9500 9505 9510

Met Ala Asp Met Gly Gln Pro Gly Ser Leu Lys Phe Asn Ile Thr
9515 9520 9525

Asp Asn Val Met Lys His Leu Leu Ser Pro Leu Phe Gln Arg Ser
9530 9535 9540

Ser Leu Gly Ala Arg Tyr Thr Gly Cys Arg Val Ile Ala Leu Arg
9545 9550 9555

Ser Val Lys Asn Gly Ala Glu Thr Arg Val Asp Leu Leu Cys Thr
9560 9565 9570

Tyr Leu Gln Pro Leu Ser Gly Pro Gly Leu Pro Ile Lys Gln Val
9575 9580 9585

Phe His Glu Leu Ser Gln Gln Thr His Gly Ile Thr Arg Leu Gly
9590 9595 9600

Pro Tyr Ser Leu Asp Lys Asp Ser Leu Tyr Leu Asn Gly Tyr Asn
9605 9610 9615

Glu Pro Gly Leu Asp Glu Pro Pro Thr Thr Pro Lys Pro Ala Thr
9620 9625 9630

Thr Phe Leu Pro Pro Leu Ser Glu Ala Thr Thr Ala Met Gly Tyr
9635 9640 9645

His Leu Lys Thr Leu Thr Leu Asn Phe Thr Ile Ser Asn Leu Gln
9650 9655 9660

Tyr Ser Pro Asp Met Gly Lys Gly Ser Ala Thr Phe Asn Ser Thr
9665 9670 9675

Glu Gly Val Leu Gln His Leu Leu Arg Pro Leu Phe Gln Lys Ser
9680 9685 9690

Ser Met Gly Pro Phe Tyr Leu Gly Cys Gln Leu Ile Ser Leu Arg
9695 9700 9705

Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Thr Thr Cys Thr
9710 9715 9720

Tyr His Pro Asp Pro Val Gly Pro Gly Leu Asp Ile Gln Gln Leu
9725 9730 9735

Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Val Thr Gln Leu Gly
9740 9745 9750

Phe Tyr Val Leu Asp Arg Asp Ser Leu Phe Ile Asn Gly Tyr Ala
9755 9760 9765

Pro Gln Asn Leu Ser Ile Arg Gly Glu Tyr Gln Ile Asn Phe His
9770 9775 9780

Ile Val Asn Trp Asn Leu Ser Asn Pro Asp Pro Thr Ser Ser Glu
9785 9790 9795

Tyr

<210> 147

<211> 1422

<212> DNA

<213> Homo sapiens

<400> 147
gccatggggt accacctgaa gaccctcaca ctcaacttca ccatctccaa tctccagtat 60

tcaccagata tgggcaaggg ctcagctaca ttcaactcca ccgagggggt ccttcagcac 120

ctgctcagac ccttgttcca gaagagcagc atgggcccct tctacttggg ttgccaactg 180

atctccctca ggcctgagaa ggatggggca gccactggtg tggacaccac ctgcacctac 240

caccctgacc ctgtgggccc cgggctggac atacagcagc tttactggga gctgagtcag 300

ctgacccatg gtgtcaccca actgggcttc tatgtcctgg acagggatag cctcttcatc 360

aatggctatg caccccagaa tttatcaatc cggggcgagt accagataaa tttccacatt 420

gtcaactgga acctcagtaa tccagacccc acatcctcag agtacatcac cctgctgagg 480

gacatccagg acaaggtcac cacactctac aaaggcagtc aactacatga cacattccgc 540

ttctgcctgg tcaccaactt gacgatggac tccgtgttgg tcactgtcaa ggcattgttc 600

tcctccaatt tggaccccag cctggtggag caagtctttc tagataagac cctgaatgcc 660

tcattccatt ggctgggctc cacctaccag ttggtggaca tccatgtgac agaaatggag 720

tcatcagttt atcaaccaac aagcagctcc agcacccagc acttctacct gaatttcacc 780

atcaccaacc taccatattc ccaggacaaa gcccagccag gcaccaccaa ttaccagagg 840

aacaaaagga atattgagga tgcgctcaac caactcttcc gaaacagcag catcaagagt 900

tatttttctg actgtcaagt ttcaacattc aggtctgtcc ccaacaggca ccacaccggg 960

gtggactccc tgtgtaactt ctcgccactg gctcggagag tagacagagt tgccatctat 1020

gaggaatttc tgcggatgac ccggaatggt acccagctgc agaacttcac cctggacagg 1080

agcagtgtcc ttgtggatgg gtattctccc aacagaaatg agccccttaac tgggaattct 1140

gaccttccct tctgggctgt catcctcatc ggcttggcag gactcctggg actcatcaca 1200

tgcctgatct gcggtgtcct ggtgaccacc cgccggcgga agaaggaagg agaatacaac 1260

gtccagcaac agtgcccagg ctactaccag tcacacctag acctggagga tctgcaatga 1320

ctggaacttg ccggtgcctg gggtgccttt cccccagcca gggtccaaag aagcttggct 1380

ggggcagaaa taaaccatat tggtcggaaa aaaaaaaaaa aa 1422

<210> 148

<211> 439

<212> PRT

<213> Homo sapiens

<400> 148

Ala Met Gly Tyr His Leu Lys Thr Leu Thr Leu Asn Phe Thr Ile Ser
1 5 10 15

Asn Leu Gln Tyr Ser Pro Asp Met Gly Lys Gly Ser Ala Thr Phe Asn
20 25 30

Ser Thr Glu Gly Val Leu Gln His Leu Leu Arg Pro Leu Phe Gln Lys
35 40 45

Ser Ser Met Gly Pro Phe Tyr Leu Gly Cys Gln Leu Ile Ser Leu Arg
50 55 60

Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Thr Thr Cys Thr Tyr
65 70 75 80

His Pro Asp Pro Val Gly Pro Gly Leu Asp Ile Gln Gln Leu Tyr Trp
85 90 95

Glu Leu Ser Gln Leu Thr His Gly Val Thr Gln Leu Gly Phe Tyr Val
100 105 110

Leu Asp Arg Asp Ser Leu Phe Ile Asn Gly Tyr Ala Pro Gln Asn Leu
115 120 125

Ser Ile Arg Gly Glu Tyr Gln Ile Asn Phe His Ile Val Asn Trp Asn
130 135 140

Leu Ser Asn Pro Asp Pro Thr Ser Ser Glu Tyr Ile Thr Leu Leu Arg
145 150 155 160

Asp Ile Gln Asp Lys Val Thr Thr Leu Tyr Lys Gly Ser Gln Leu His
165 170 175

Asp Thr Phe Arg Phe Cys Leu Val Thr Asn Leu Thr Met Asp Ser Val
180 185 190

Leu Val Thr Val Lys Ala Leu Phe Ser Ser Asn Leu Asp Pro Ser Leu
195 200 205

Val Glu Gln Val Phe Leu Asp Lys Thr Leu Asn Ala Ser Phe His Trp
210 215 220

Leu Gly Ser Thr Tyr Gln Leu Val Asp Ile His Val Thr Glu Met Glu
225 230 235 240

Ser Ser Val Tyr Gln Pro Thr Ser Ser Ser Ser Thr Gln His Phe Tyr
245 250 255

Leu Asn Phe Thr Ile Thr Asn Leu Pro Tyr Ser Gln Asp Lys Ala Gln
260 265 270

Pro Gly Thr Thr Asn Tyr Gln Arg Asn Lys Arg Asn Ile Glu Asp Ala
275 280 285

Leu Asn Gln Leu Phe Arg Asn Ser Ser Ile Lys Ser Tyr Phe Ser Asp
290 295 300

Cys Gln Val Ser Thr Phe Arg Ser Val Pro Asn Arg His His Thr Gly
305 310 315 320

Val Asp Ser Leu Cys Asn Phe Ser Pro Leu Ala Arg Arg Val Asp Arg
325 330 335

Val Ala Ile Tyr Glu Glu Phe Leu Arg Met Thr Arg Asn Gly Thr Gln
340 345 350

Leu Gln Asn Phe Thr Leu Asp Arg Ser Ser Val Leu Val Asp Gly Tyr
355 360 365

Ser Pro Asn Arg Asn Glu Pro Leu Thr Gly Asn Ser Asp Leu Pro Phe
370 375 380

Trp Ala Val Ile Leu Ile Gly Leu Ala Gly Leu Leu Gly Leu Ile Thr
385 390 395 400

Cys Leu Ile Cys Gly Val Leu Val Thr Thr Arg Arg Arg Lys Lys Glu
405 410 415

Gly Glu Tyr Asn Val Gln Gln Gln Cys Pro Gly Tyr Tyr Gln Ser His
420 425 430

Leu Asp Leu Glu Asp Leu Gln
435

<210> 149

<211> 1799

<212> PRT

<213> Homo sapiens

<400> 149

Arg Thr Asp Gly Ile Met Glu His Ile Thr Lys Ile Pro Asn Glu Ala
1 5 10 15

Ala His Arg Gly Thr Ile Arg Pro Val Lys Gly Pro Gln Thr Ser Thr
20 25 30

Ser Pro Ala Ser Pro Lys Gly Leu His Thr Gly Gly Thr Lys Arg Met
35 40 45

Glu Thr Thr Thr Thr Ala Leu Lys Thr Thr Thr Thr Ala Leu Lys Thr
50 55 60

Thr Ser Arg Ala Thr Leu Thr Thr Ser Val Tyr Thr Pro Thr Leu Gly
65 70 75 80

Thr Leu Thr Pro Leu Asn Ala Ser Arg Gln Met Ala Ser Thr Ile Leu

```
                85                      90                      95

Thr Glu Met Met Ile Thr Thr Pro Tyr Val Phe Pro Asp Val Pro Glu
            100                 105                 110

Thr Thr Ser Ser Leu Ala Thr Ser Leu Gly Ala Glu Thr Ser Thr Ala
        115                 120                 125

Leu Pro Arg Thr Thr Pro Ser Val Leu Asn Arg Glu Ser Glu Thr Thr
    130                 135                 140

Ala Ser Leu Val Ser Arg Ser Gly Ala Glu Arg Ser Pro Val Ile Gln
145                 150                 155                 160

Thr Leu Asp Val Ser Ser Ser Glu Pro Asp Thr Thr Ala Ser Trp Val
                165                 170                 175

Ile His Pro Ala Glu Thr Ile Pro Thr Val Ser Lys Thr Thr Pro Asn
            180                 185                 190

Phe Phe His Ser Glu Leu Asp Thr Val Ser Ser Thr Ala Thr Ser His
        195                 200                 205

Gly Ala Asp Val Ser Ser Ala Ile Pro Thr Asn Ile Ser Pro Ser Glu
    210                 215                 220

Leu Asp Ala Leu Thr Pro Leu Val Thr Ile Ser Gly Thr Asp Thr Ser
225                 230                 235                 240

Thr Thr Phe Pro Thr Leu Thr Lys Ser Pro His Glu Thr Glu Thr Arg
                245                 250                 255

Thr Thr Trp Leu Thr His Pro Ala Glu Thr Ser Ser Thr Ile Pro Arg
            260                 265                 270

Thr Ile Pro Asn Phe Ser His His Glu Ser Asp Ala Thr Pro Ser Ile
        275                 280                 285

Ala Thr Ser Pro Gly Ala Glu Thr Ser Ser Ala Ile Pro Ile Met Thr
    290                 295                 300

Val Ser Pro Gly Ala Glu Asp Leu Val Thr Ser Gln Val Thr Ser Ser
305                 310                 315                 320

Gly Thr Asp Arg Asn Met Thr Ile Pro Thr Leu Thr Leu Ser Pro Gly
                325                 330                 335

Glu Pro Lys Thr Ile Ala Ser Leu Val Thr His Pro Glu Ala Gln Thr
            340                 345                 350

Ser Ser Ala Ile Pro Thr Ser Thr Ile Ser Pro Ala Val Ser Arg Leu
        355                 360                 365

Val Thr Ser Met Val Thr Ser Leu Ala Ala Lys Thr Ser Thr Thr Asn
    370                 375                 380

Arg Ala Leu Thr Asn Ser Pro Gly Glu Pro Ala Thr Thr Val Ser Leu
385                 390                 395                 400
```

```
Val Thr His Pro Ala Gln Thr Ser Pro Thr Val Pro Trp Thr Thr Ser
                405                 410                 415

Ile Phe Phe His Ser Lys Ser Asp Thr Thr Pro Ser Met Thr Thr Ser
            420                 425                 430

His Gly Ala Glu Ser Ser Ser Ala Val Pro Thr Pro Thr Val Ser Thr
        435                 440                 445

Glu Val Pro Gly Val Val Thr Pro Leu Val Thr Ser Ser Arg Ala Val
    450                 455                 460

Ile Ser Thr Thr Ile Pro Ile Leu Thr Leu Ser Pro Gly Glu Pro Glu
465                 470                 475                 480

Thr Thr Pro Ser Met Ala Thr Ser His Gly Glu Glu Ala Ser Ser Ala
                485                 490                 495

Ile Pro Thr Pro Thr Val Ser Pro Gly Val Pro Gly Val Val Thr Ser
            500                 505                 510

Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr Thr Ile Pro Ile Leu
        515                 520                 525

Thr Phe Ser Leu Gly Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser
    530                 535                 540

His Gly Thr Glu Ala Gly Ser Ala Val Pro Thr Val Leu Pro Glu Val
545                 550                 555                 560

Pro Gly Met Val Thr Ser Leu Val Ala Ser Ser Arg Ala Val Thr Ser
                565                 570                 575

Thr Thr Leu Pro Thr Leu Thr Leu Ser Pro Gly Glu Pro Glu Thr Thr
            580                 585                 590

Pro Ser Met Ala Thr Ser His Gly Ala Glu Ala Ser Ser Thr Val Pro
        595                 600                 605

Thr Val Ser Pro Glu Val Pro Gly Val Val Thr Ser Leu Val Thr Ser
    610                 615                 620

Ser Ser Gly Val Asn Ser Thr Ser Ile Pro Thr Leu Ile Leu Ser Pro
625                 630                 635                 640

Gly Glu Leu Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Ala Glu
                645                 650                 655

Ala Ser Ser Ala Val Pro Thr Pro Thr Val Ser Pro Gly Val Ser Gly
            660                 665                 670

Val Val Thr Pro Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr Thr
        675                 680                 685

Ile Pro Ile Leu Thr Leu Ser Ser Ser Glu Pro Glu Thr Thr Pro Ser
    690                 695                 700

Met Ala Thr Ser His Gly Val Glu Ala Ser Ser Ala Val Leu Thr Val
705                 710                 715                 720
```

```
Ser Pro Glu Val Pro Gly Met Val Thr Ser Leu Val Thr Ser Ser Arg
                725                 730                 735

Ala Val Thr Ser Thr Thr Ile Pro Thr Leu Thr Ile Ser Ser Asp Glu
            740                 745                 750

Pro Glu Thr Thr Thr Ser Leu Val Thr His Ser Glu Ala Lys Met Ile
        755                 760                 765

Ser Ala Ile Pro Thr Leu Ala Val Ser Pro Thr Val Gln Gly Leu Val
    770                 775                 780

Thr Ser Leu Val Thr Ser Ser Gly Ser Glu Thr Ser Ala Phe Ser Asn
785                 790                 795                 800

Leu Thr Val Ala Ser Ser Gln Pro Glu Thr Ile Asp Ser Trp Val Ala
                805                 810                 815

His Pro Gly Thr Glu Ala Ser Ser Val Val Pro Thr Leu Thr Val Ser
            820                 825                 830

Thr Gly Glu Pro Phe Thr Asn Ile Ser Leu Val Thr His Pro Ala Glu
        835                 840                 845

Ser Ser Ser Thr Leu Pro Arg Thr Thr Ser Arg Phe Ser His Ser Glu
    850                 855                 860

Leu Asp Thr Met Pro Ser Thr Val Thr Ser Pro Glu Ala Glu Ser Ser
865                 870                 875                 880

Ser Ala Ile Ser Thr Thr Ile Ser Pro Gly Ile Pro Gly Val Leu Thr
                885                 890                 895

Ser Leu Val Thr Ser Ser Gly Arg Asp Ile Ser Ala Thr Phe Pro Thr
            900                 905                 910

Val Pro Glu Ser Pro His Glu Ser Glu Ala Thr Ala Ser Trp Val Thr
        915                 920                 925

His Pro Ala Val Thr Ser Thr Thr Val Pro Arg Thr Thr Pro Asn Tyr
    930                 935                 940

Ser His Ser Glu Pro Asp Thr Thr Pro Ser Ile Ala Thr Ser Pro Gly
945                 950                 955                 960

Ala Glu Ala Thr Ser Asp Phe Pro Thr Ile Thr Val Ser Pro Asp Val
                965                 970                 975

Pro Asp Met Val Thr Ser Gln Val Thr Ser Ser Gly Thr Asp Thr Ser
            980                 985                 990

Ile Thr Ile Pro Thr Leu Thr Leu  Ser Ser Gly Glu Pro  Glu Thr Thr
        995                 1000                 1005

Thr Ser  Phe Ile Thr Tyr Ser  Glu Thr His Thr Ser  Ser Ala Ile
    1010                 1015                 1020

Pro Thr  Leu Pro Val Ser Pro  Gly Ala Ser Lys Met  Leu Thr Ser
```

1025 1030 1035

Leu Val Ile Ser Ser Gly Thr Asp Ser Thr Thr Thr Phe Pro Thr
1040 1045 1050

Leu Thr Glu Thr Pro Tyr Glu Pro Glu Thr Thr Ala Ile Gln Leu
1055 1060 1065

Ile His Pro Ala Glu Thr Asn Thr Met Val Pro Arg Thr Thr Pro
1070 1075 1080

Lys Phe Ser His Ser Lys Ser Asp Thr Thr Leu Pro Val Ala Ile
1085 1090 1095

Thr Ser Pro Gly Pro Glu Ala Ser Ser Ala Val Ser Thr Thr Thr
1100 1105 1110

Ile Ser Pro Asp Met Ser Asp Leu Val Thr Ser Leu Val Pro Ser
1115 1120 1125

Ser Gly Thr Asp Thr Ser Thr Thr Phe Pro Thr Leu Ser Glu Thr
1130 1135 1140

Pro Tyr Glu Pro Glu Thr Thr Ala Thr Trp Leu Thr His Pro Ala
1145 1150 1155

Glu Thr Ser Thr Thr Val Ser Gly Thr Ile Pro Asn Phe Ser His
1160 1165 1170

Arg Gly Ser Asp Thr Ala Pro Ser Met Val Thr Ser Pro Gly Val
1175 1180 1185

Asp Thr Arg Ser Gly Val Pro Thr Thr Thr Ile Pro Pro Ser Ile
1190 1195 1200

Pro Gly Val Val Thr Ser Gln Val Thr Ser Ser Ala Thr Asp Thr
1205 1210 1215

Ser Thr Ala Ile Pro Thr Leu Thr Pro Ser Pro Gly Glu Pro Glu
1220 1225 1230

Thr Thr Ala Ser Ser Ala Thr His Pro Gly Thr Gln Thr Gly Phe
1235 1240 1245

Thr Val Pro Ile Arg Thr Val Pro Ser Ser Glu Pro Asp Thr Met
1250 1255 1260

Ala Ser Trp Val Thr His Pro Pro Gln Thr Ser Thr Pro Val Ser
1265 1270 1275

Arg Thr Thr Ser Ser Phe Ser His Ser Ser Pro Asp Ala Thr Pro
1280 1285 1290

Val Met Ala Thr Ser Pro Arg Thr Glu Ala Ser Ser Ala Val Leu
1295 1300 1305

Thr Thr Ile Ser Pro Gly Ala Pro Glu Met Val Thr Ser Gln Ile
1310 1315 1320

Thr Ser Ser Gly Ala Ala Thr Ser Thr Thr Val Pro Thr Leu Thr
1325 1330 1335

His Ser Pro Gly Met Pro Glu Thr Thr Ala Leu Leu Ser Thr His
1340 1345 1350

Pro Arg Thr Glu Thr Ser Lys Thr Phe Pro Ala Ser Thr Val Phe
1355 1360 1365

Pro Gln Val Ser Glu Thr Thr Ala Ser Leu Thr Ile Arg Pro Gly
1370 1375 1380

Ala Glu Thr Ser Thr Ala Leu Pro Thr Gln Thr Thr Ser Ser Leu
1385 1390 1395

Phe Thr Leu Leu Val Thr Gly Thr Ser Arg Val Asp Leu Ser Pro
1400 1405 1410

Thr Ala Ser Pro Gly Val Ser Ala Lys Thr Ala Pro Leu Ser Thr
1415 1420 1425

His Pro Gly Thr Glu Thr Ser Thr Met Ile Pro Thr Ser Thr Leu
1430 1435 1440

Ser Leu Gly Leu Leu Glu Thr Thr Gly Leu Leu Ala Thr Ser Ser
1445 1450 1455

Ser Ala Glu Thr Ser Thr Ser Thr Leu Thr Leu Thr Val Ser Pro
1460 1465 1470

Ala Val Ser Gly Leu Ser Ser Ala Ser Ile Thr Thr Asp Lys Pro
1475 1480 1485

Gln Thr Val Thr Ser Trp Asn Thr Glu Thr Ser Pro Ser Val Thr
1490 1495 1500

Ser Val Gly Pro Pro Glu Phe Ser Arg Thr Val Thr Gly Thr Thr
1505 1510 1515

Met Thr Leu Ile Pro Ser Glu Met Pro Thr Pro Pro Lys Thr Ser
1520 1525 1530

His Gly Glu Gly Val Ser Pro Thr Thr Ile Leu Arg Thr Thr Met
1535 1540 1545

Val Glu Ala Thr Asn Leu Ala Thr Thr Gly Ser Ser Pro Thr Val
1550 1555 1560

Ala Lys Thr Thr Thr Thr Phe Asn Thr Leu Ala Gly Ser Leu Phe
1565 1570 1575

Thr Pro Leu Thr Thr Pro Gly Met Ser Thr Leu Ala Ser Glu Ser
1580 1585 1590

Val Thr Ser Arg Thr Ser Tyr Asn His Arg Ser Trp Ile Ser Thr
1595 1600 1605

Thr Ser Ser Tyr Asn Arg Arg Tyr Trp Thr Pro Ala Thr Ser Thr
1610 1615 1620

```
Pro Val  Thr Ser Thr Phe Ser  Pro Gly Ile Ser Thr  Ser Ser Ile
    1625                 1630                 1635

Pro Ser  Ser Thr Ala Ala Thr  Val Pro Phe Met Val  Pro Phe Thr
    1640                 1645                 1650

Leu Asn  Phe Thr Ile Thr Asn  Leu Gln Tyr Glu Glu  Asp Met Arg
    1655                 1660                 1665

His Pro  Gly Ser Arg Lys Phe  Asn Ala Thr Glu Arg  Glu Leu Gln
    1670                 1675                 1680

Gly Leu  Leu Lys Pro Leu Phe  Arg Asn Ser Ser Leu  Glu Tyr Leu
    1685                 1690                 1695

Tyr Ser  Gly Cys Arg Leu Ala  Ser Leu Arg Pro Glu  Lys Asp Ser
    1700                 1705                 1710

Ser Ala  Met Ala Val Asp Ala  Ile Cys Thr His Arg  Pro Asp Pro
    1715                 1720                 1725

Glu Asp  Leu Gly Leu Asp Arg  Glu Arg Leu Tyr Trp  Glu Leu Ser
    1730                 1735                 1740

Asn Leu  Thr Asn Gly Ile Gln  Glu Leu Gly Pro Tyr  Thr Leu Asp
    1745                 1750                 1755

Arg Asn  Ser Leu Tyr Val Asn  Gly Phe Thr His Arg  Ser Ser Met
    1760                 1765                 1770

Pro Thr  Thr Ser Thr Pro Gly  Thr Ser Thr Val Asp  Val Gly Thr
    1775                 1780                 1785

Ser Gly  Thr Pro Ser Ser Ser  Pro Ser Pro Thr
    1790                 1795
```

<210> 150

<211> 156

<212> PRT

<213> Homo sapiens

<400> 150

```
Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr
1               5                  10                  15

Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
            20                  25                  30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys
        35                  40                  45

Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu
```

50 55 60

Arg Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr
65 70 75 80

His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr
85 90 95

Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr
100 105 110

Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser
115 120 125

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala
130 135 140

Thr Ser Gly Thr Pro Ser Ser Leu Pro Lys Leu Thr
145 150 155

<210> 151

<211> 507

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)..(507)

<400> 151
atg aga gga tcg cat cac cat cac cat cac gga tcc atg ggc cac aca 48
Met Arg Gly Ser His His His His His His Gly Ser Met Gly His Thr
1 5 10 15

gag cct ggc cct ctc ctg ata cca ttc act ttc aac ttt acc atc acc 96
Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr
20 25 30

aac ctg cat tat gag gaa aac atg caa cac cct ggt tcc agg aag ttc 144
Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
35 40 45

aac acc acg gag agg gtt ctg cag ggt ctg ctc aag ccc ttg ttc aag 192
Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys
50 55 60

aac acc agt gtt ggc cct ctg tac tct ggc tgc aga ctg acc ttg ctc 240
Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu
65 70 75 80

aga cct gag aag cat gag gca gcc act gga gtg gac acc atc tgt acc 288
Arg Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr
85 90 95

cac cgc gtt gat ccc atc gga cct gga ctg gac aga gag cgg cta tac 336
His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr
100 105 110

tgg gag ctg agc cag ctg acc aac agc atc aca gag ctg gga ccc tac 384
Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr
115 120 125

acc ctg gac agg gac agt ctc tat gtc aat ggc ttc aac cct cgg agc 432
Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser
130 135 140

tct gtg cca acc acc agc act cct ggg acc tcc aca gtg cac ctg gca 480
Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala
145 150 155 160

acc tct ggg act cca tcc tcc ctg cct 507
Thr Ser Gly Thr Pro Ser Ser Leu Pro
165

<210> 152

<211> 169

<212> PRT

<213> Homo sapiens

<400> 152

Met Arg Gly Ser His His His His His His Gly Ser Met Gly His Thr
1 5 10 15

Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr
20 25 30

Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
35 40 45

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys
50 55 60

Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu
65 70 75 80

Arg Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr
85 90 95

His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr
100 105 110

Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr
115 120 125

Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser
130 135 140

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala
145 150 155 160

Thr Ser Gly Thr Pro Ser Ser Leu Pro
165

<210> 153

<211> 507

<212> DNA

<213> Homo sapiens

<400> 153
aggcagggag gatggagtcc cagaggttgc caggtgcact gtggaggtcc caggagtgct 60

ggtggttggc acagagctcc gagggttgaa gccattgaca tagagactgt ccctgtccag 120

ggtgtagggt cccagctctg tgatgctgtt ggtcagctgg ctcagctccc agtatagccg 180

ctctctgtcc agtccaggtc cgatgggatc aacgcggtgg gtacagatgg tgtccactcc 240

agtggctgcc tcatgcttct caggtctgag caaggtcagt ctgcagccag agtacagagg 300

gccaacactg gtgttcttga acaagggctt gagcagaccc tgcagaaccc tctccgtggt 360

gttgaacttc ctggaaccag ggtgttgcat gttttcctca taatgcaggt tggtgatggt 420

aaagttgaaa gtgaatggta tcaggagagg gccaggctct gtgtggccca tggatccgtg 480

atggtgatgg tgatgcgatc ctctcat 507

<210> 154

<211> 9

<212> PRT

<213> Homo sapiens

<400> 154

Arg Leu Tyr Trp Glu Leu Ser Gln Leu
1 5

<210> 155

<211> 9

<212> PRT

<213> Homo sapiens

<400> 155

Thr Leu Asp Arg Asp Ser Leu Tyr Val
1 5

<210> 156

<211> 9

<212> PRT

<213> Homo sapiens

<400> 156

Val Leu Gln Gly Leu Leu Lys Pro Leu
1 5

<210> 157

<211> 9

<212> PRT

<213> Homo sapiens

<400> 157

Gln Leu Thr Asn Ser Ile Thr Glu Leu
1 5

<210> 158

<211> 780

<212> PRT

<213> Homo sapiens

<400> 158

```
Ala Thr Val Pro Phe Met Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1               5                  10                  15

Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe
            20                  25                  30

Asn Ala Thr Glu Arg Glu Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg
        35                  40                  45

Asn Ser Ser Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu
    50                  55                  60

Arg Pro Glu Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr
65                  70                  75                  80

His Arg Pro Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr
                85                  90                  95

Trp Glu Leu Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr
            100                 105                 110

Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser
        115                 120                 125

Ser Met Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly
    130                 135                 140

Thr Ser Gly Thr Pro Ser Ser Ser Pro Ser Pro Thr Ala Ala Gly Pro
145                 150                 155                 160

Leu Leu Met Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr
                165                 170                 175

Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu
            180                 185                 190

Ser Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val
        195                 200                 205

Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys
    210                 215                 220

Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp
225                 230                 235                 240

Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser
                245                 250                 255

Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg
            260                 265                 270
```

Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr
275 280 285

Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr
290 295 300

Pro Ser Ser Leu Ser Ser Pro Thr Ile Met Ala Gly Pro Leu Leu Val
305 310 315 320

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Gly Glu Asp
325 330 335

Met Gly His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
340 345 350

Gln Gly Leu Leu Gly Pro Ile Phe Lys Asn Thr Ser Val Gly Pro Leu
355 360 365

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Ser Glu Lys Asp Gly Ala
370 375 380

Ala Thr Gly Val Asp Ala Ile Cys Ile His His Leu Asp Pro Lys Ser
385 390 395 400

Pro Gly Leu Asn Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr
405 410 415

Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
420 425 430

Tyr Val Asn Gly Phe Thr His Arg Thr Ser Val Pro Thr Ser Ser Thr
435 440 445

Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Phe Ser
450 455 460

Leu Pro Ser Pro Ala Thr Ala Gly Pro Leu Leu Val Leu Phe Thr Leu
465 470 475 480

Asn Phe Thr Ile Thr Asn Leu Lys Tyr Glu Glu Asp Met His Arg Pro
485 490 495

Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Thr Leu Leu
500 505 510

Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys
515 520 525

Arg Leu Thr Leu Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val
530 535 540

Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp
545 550 555 560

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys
565 570 575

Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
580 585 590

Phe Thr His Trp Ile Pro Val Pro Thr Ser Ser Thr Pro Gly Thr Ser
595 600 605

Thr Val Asp Leu Gly Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr
610 615 620

Ala Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
625 630 635 640

Asn Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe
645 650 655

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys
660 665 670

Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu
675 680 685

Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr
690 695 700

His Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr
705 710 715 720

Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr
725 730 735

Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr
740 745 750

Ser Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly
755 760 765

Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr
770 775 780

<210> 159

<211> 780

<212> PRT

<213> Homo sapiens

<400> 159

Ser Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys
35 40 45

Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu

50 55 60

Arg Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser
65 70 75 80

His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr
85 90 95

Trp Glu Leu Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr
100 105 110

Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser
115 120 125

Ser Val Ala Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly
130 135 140

Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala Val Pro
145 150 155 160

Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr
165 170 175

Gly Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu
180 185 190

Arg Val Leu Gln Gly Leu Leu Gly Pro Leu Phe Lys Asn Ser Ser Val
195 200 205

Gly Pro Leu Tyr Ser Gly Cys Arg Leu Ile Ser Leu Arg Ser Glu Lys
210 215 220

Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His His Leu Asn
225 230 235 240

Pro Gln Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu Ser
245 250 255

Gln Met Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg
260 265 270

Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu Thr
275 280 285

Thr Ser Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr
290 295 300

Pro Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Val Pro
305 310 315 320

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met
325 330 335

His Arg Pro Gly Ser Arg Lys Phe Asn Ala Thr Glu Arg Val Leu Gln
340 345 350

Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr
355 360 365

Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala
370 375 380

Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro
385 390 395 400

Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His
405 410 415

Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr
420 425 430

Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro
435 440 445

Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe
450 455 460

Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn
465 470 475 480

Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly
485 490 495

Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys
500 505 510

Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg
515 520 525

Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp
530 535 540

Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg
545 550 555 560

Glu Gln Leu Tyr Cys Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu
565 570 575

Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe
580 585 590

Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr
595 600 605

Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His Thr
610 615 620

Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr
625 630 635 640

Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
645 650 655

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys
660 665 670

Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu
675 680 685

Arg Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr
690 695 700

His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr
705 710 715 720

Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr
725 730 735

Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser
740 745 750

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala
755 760 765

Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr
770 775 780

<210> 160

<211> 624

<212> PRT

<213> Homo sapiens

<400> 160

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Arg Phe
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Thr Pro Leu Phe Lys
35 40 45

Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu
50 55 60

Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr
65 70 75 80

His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr
85 90 95

Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr
100 105 110

Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser
115 120 125

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala
130 135 140

Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro

145 150 155 160

Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asp Leu His Tyr
165 170 175

Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu
180 185 190

Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val
195 200 205

Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys
210 215 220

His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp
225 230 235 240

Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser
245 250 255

Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg
260 265 270

Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr
275 280 285

Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr
290 295 300

Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Val Pro
305 310 315 320

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met
325 330 335

Arg His Pro Gly Ser Arg Lys Phe Ser Thr Thr Glu Arg Val Leu Gln
340 345 350

Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr
355 360 365

Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala
370 375 380

Thr Arg Val Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys Ser Pro
385 390 395 400

Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr His
405 410 415

Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Leu Tyr
420 425 430

Val Asn Gly Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr Pro
435 440 445

Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser Leu
450 455 460

Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn
465 470 475 480

Phe Thr Ile Thr Asn Gln Arg Tyr Glu Glu Asn Met His His Pro Gly
485 490 495

Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Arg
500 505 510

Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg
515 520 525

Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp
530 535 540

Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg
545 550 555 560

Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu
565 570 575

Leu Gly Pro Tyr Thr Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe
580 585 590

Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala
595 600 605

Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His Thr
610 615 620

<210> 161

<211> 468

<212> PRT

<213> Homo sapiens

<400> 161

Ala Thr Gly Pro Val Leu Leu Pro Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Met Pro Leu Phe Lys
35 40 45

Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu
50 55 60

Arg Pro Glu Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Val Cys Thr
65 70 75 80

His Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr
85 90 95

Trp Lys Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr
100 105 110

Thr Leu Asp Arg His Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser
115 120 125

Ser Met Thr Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala
130 135 140

Thr Ser Arg Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro
145 150 155 160

Leu Leu Val Leu Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr
165 170 175

Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu
180 185 190

Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val
195 200 205

Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys
210 215 220

Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp
225 230 235 240

Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser
245 250 255

Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Gln Asp Arg
260 265 270

Asp Ser Leu Tyr Asn Val Gly Phe Thr Gln Arg Ser Ser Val Pro Thr
275 280 285

Thr Ser Val Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly Thr
290 295 300

Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Val Leu
305 310 315 320

Phe Thr Leu Asn Gly Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn Met
325 330 335

Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln
340 345 350

Gly Leu Leu Arg Ser Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr
355 360 365

Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Thr Ala
370 375 380

Thr Gly Val Asp Ala Ile Cys Thr His His Pro Asp Pro Lys Ser Pro
385 390 395 400

Arg Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His

405 410 415

Asn Ile Thr Glu Leu Gly His Tyr Ala Leu Asp Asn Asp Ser Leu Phe
420 425 430

Val Asn Gly Phe Thr His Arg Ser Ser Val Ser Thr Thr Ser Thr Pro
435 440 445

Gly Thr Pro Thr Val Tyr Leu Gly Ala Ser Lys Thr Pro Ala Ser Ile
450 455 460

Phe Gly Pro Ser
465

<210> 162

<211> 11721

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> (1)..(11721)

<223> any x = any amino acid

<400> 162

Met Glu His Ile Thr Lys Ile Pro Asn Glu Ala Ala His Arg Gly Thr
1 5 10 15

Ile Arg Pro Val Lys Gly Pro Gln Thr Ser Thr Ser Pro Ala Ser Pro
20 25 30

Lys Gly Leu His Thr Gly Gly Thr Lys Arg Met Glu Thr Thr Thr Thr
35 40 45

Ala Leu Lys Thr Thr Thr Thr Ala Leu Lys Thr Thr Ser Arg Ala Thr
50 55 60

Leu Thr Thr Ser Val Tyr Thr Pro Thr Leu Gly Thr Leu Thr Pro Leu
65 70 75 80

Asn Ala Ser Arg Gln Met Ala Ser Thr Ile Leu Thr Glu Met Met Ile
85 90 95

Thr Thr Pro Tyr Val Phe Pro Asp Val Pro Glu Thr Thr Ser Ser Leu
100 105 110

Ala Thr Ser Leu Gly Ala Glu Thr Ser Thr Ala Leu Pro Arg Thr Thr
115 120 125

Pro Ser Val Leu Asn Arg Glu Ser Glu Thr Thr Ala Ser Leu Val Ser
130 135 140

Arg Ser Gly Ala Glu Arg Ser Pro Val Ile Gln Thr Leu Asp Val Ser
145 150 155 160

Ser Ser Glu Pro Asp Thr Thr Ala Ser Trp Val Ile His Pro Ala Glu
165 170 175

Thr Ile Pro Thr Val Ser Lys Thr Thr Pro Asn Phe Phe His Ser Glu
180 185 190

Leu Asp Thr Val Ser Ser Thr Ala Thr Ser His Gly Ala Asp Val Ser
195 200 205

Ser Ala Ile Pro Thr Asn Ile Ser Pro Ser Glu Leu Asp Ala Leu Thr
210 215 220

Pro Leu Val Thr Ile Ser Gly Thr Asp Thr Ser Thr Thr Phe Pro Thr
225 230 235 240

Leu Thr Lys Ser Pro His Glu Thr Glu Thr Arg Thr Thr Trp Leu Thr
245 250 255

His Pro Ala Glu Thr Ser Ser Thr Ile Pro Arg Thr Ile Pro Asn Phe
260 265 270

Ser His His Glu Ser Asp Ala Thr Pro Ser Ile Ala Thr Ser Pro Gly
275 280 285

Ala Glu Thr Ser Ser Ala Ile Pro Ile Met Thr Val Ser Pro Gly Ala
290 295 300

Glu Asp Leu Val Thr Ser Gln Val Thr Ser Ser Gly Thr Asp Arg Asn
305 310 315 320

Met Thr Ile Pro Thr Leu Thr Leu Ser Pro Gly Glu Pro Lys Thr Ile
325 330 335

Ala Ser Leu Val Thr His Pro Glu Ala Gln Thr Ser Ser Ala Ile Pro
340 345 350

Thr Ser Thr Ile Ser Pro Ala Val Ser Arg Leu Val Thr Ser Met Val
355 360 365

Thr Ser Leu Ala Ala Lys Thr Ser Thr Thr Asn Arg Ala Leu Thr Asn
370 375 380

Ser Pro Gly Glu Pro Ala Thr Thr Val Ser Leu Val Thr His Pro Ala
385 390 395 400

Gln Thr Ser Pro Thr Val Pro Trp Thr Thr Ser Ile Phe Phe His Ser
405 410 415

Lys Ser Asp Thr Thr Pro Ser Met Thr Thr Ser His Gly Ala Glu Ser
420 425 430

Ser Ser Ala Val Pro Thr Pro Thr Val Ser Thr Glu Val Pro Gly Val

```
        435                 440                 445

Val Thr Pro Leu Val Thr Ser Ser Arg Ala Val Ile Ser Thr Thr Ile
    450                 455                 460

Pro Ile Leu Thr Leu Ser Pro Gly Glu Pro Glu Thr Thr Pro Ser Met
465                 470                 475                 480

Ala Thr Ser His Gly Glu Glu Ala Ser Ser Ala Ile Pro Thr Pro Thr
                485                 490                 495

Val Ser Pro Gly Val Pro Gly Val Val Thr Ser Leu Val Thr Ser Ser
            500                 505                 510

Arg Ala Val Thr Ser Thr Thr Ile Pro Ile Leu Thr Phe Ser Leu Gly
        515                 520                 525

Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Thr Glu Ala
    530                 535                 540

Gly Ser Ala Val Pro Thr Val Leu Pro Glu Val Pro Gly Met Val Thr
545                 550                 555                 560

Ser Leu Val Ala Ser Ser Arg Ala Val Thr Ser Thr Thr Leu Pro Thr
                565                 570                 575

Leu Thr Leu Ser Pro Gly Glu Pro Glu Thr Thr Pro Ser Met Ala Thr
            580                 585                 590

Ser His Gly Ala Glu Ala Ser Ser Thr Val Pro Thr Val Ser Pro Glu
        595                 600                 605

Val Pro Gly Val Val Thr Ser Leu Val Thr Ser Ser Ser Gly Val Asn
    610                 615                 620

Ser Thr Ser Ile Pro Thr Leu Ile Leu Ser Pro Gly Glu Leu Glu Thr
625                 630                 635                 640

Thr Pro Ser Met Ala Thr Ser His Gly Ala Glu Ala Ser Ser Ala Val
                645                 650                 655

Pro Thr Pro Thr Val Ser Pro Gly Val Ser Gly Val Val Thr Pro Leu
            660                 665                 670

Val Thr Ser Ser Arg Ala Val Thr Ser Thr Thr Ile Pro Ile Leu Thr
        675                 680                 685

Leu Ser Ser Ser Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His
    690                 695                 700

Gly Val Glu Ala Ser Ser Ala Val Leu Thr Val Ser Pro Glu Val Pro
705                 710                 715                 720

Gly Met Val Thr Ser Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr
                725                 730                 735

Thr Ile Pro Thr Leu Thr Ile Ser Ser Asp Glu Pro Glu Thr Thr Thr
            740                 745                 750
```

```
Ser Leu Val Thr His Ser Glu Ala Lys Met Ile Ser Ala Ile Pro Thr
        755                 760                 765

Leu Ala Val Ser Pro Thr Val Gln Gly Leu Val Thr Ser Leu Val Thr
    770                 775                 780

Ser Ser Gly Ser Glu Thr Ser Ala Phe Ser Asn Leu Thr Val Ala Ser
785                 790                 795                 800

Ser Gln Pro Glu Thr Ile Asp Ser Trp Val Ala His Pro Gly Thr Glu
                805                 810                 815

Ala Ser Ser Val Val Pro Thr Leu Thr Val Ser Thr Gly Glu Pro Phe
            820                 825                 830

Thr Asn Ile Ser Leu Val Thr His Pro Ala Glu Ser Ser Ser Thr Leu
        835                 840                 845

Pro Arg Thr Thr Ser Arg Phe Ser His Ser Glu Leu Asp Thr Met Pro
    850                 855                 860

Ser Thr Val Thr Ser Pro Glu Ala Glu Ser Ser Ser Ala Ile Ser Thr
865                 870                 875                 880

Thr Ile Ser Pro Gly Ile Pro Gly Val Leu Thr Ser Leu Val Thr Ser
                885                 890                 895

Ser Gly Arg Asp Ile Ser Ala Thr Phe Pro Thr Val Pro Glu Ser Pro
            900                 905                 910

His Glu Ser Glu Ala Thr Ala Ser Trp Val Thr His Pro Ala Val Thr
        915                 920                 925

Ser Thr Thr Val Pro Arg Thr Thr Pro Asn Tyr Ser His Ser Glu Pro
    930                 935                 940

Asp Thr Thr Pro Ser Ile Ala Thr Ser Pro Gly Ala Glu Ala Thr Ser
945                 950                 955                 960

Asp Phe Pro Thr Ile Thr Val Ser Pro Asp Val Pro Asp Met Val Thr
                965                 970                 975

Ser Gln Val Thr Ser Ser Gly Thr Asp Thr Ser Ile Thr Ile Pro Thr
            980                 985                 990

Leu Thr Leu Ser Ser Gly Glu Pro  Glu Thr Thr Thr Ser  Phe Ile Thr
        995                 1000                 1005

Tyr Ser  Glu Thr His Thr Ser  Ser Ala Ile Pro Thr  Leu Pro Val
    1010                 1015                 1020

Ser Pro  Gly Ala Ser Lys Met  Leu Thr Ser Leu Val  Ile Ser Ser
    1025                 1030                 1035

Gly Thr  Asp Ser Thr Thr Thr  Phe Pro Thr Leu Thr  Glu Thr Pro
    1040                 1045                 1050

Tyr Glu  Pro Glu Thr Thr Ala  Ile Gln Leu Ile His  Pro Ala Glu
    1055                 1060                 1065
```

Thr Asn Thr Met Val Pro Arg Thr Thr Pro Lys Phe Ser His Ser
1070 1075 1080

Lys Ser Asp Thr Thr Leu Pro Val Ala Ile Thr Ser Pro Gly Pro
1085 1090 1095

Glu Ala Ser Ser Ala Val Ser Thr Thr Thr Ile Ser Pro Asp Met
1100 1105 1110

Ser Asp Leu Val Thr Ser Leu Val Pro Ser Ser Gly Thr Asp Thr
1115 1120 1125

Ser Thr Thr Phe Pro Thr Leu Ser Glu Thr Pro Tyr Glu Pro Glu
1130 1135 1140

Thr Thr Ala Thr Trp Leu Thr His Pro Ala Glu Thr Ser Thr Thr
1145 1150 1155

Val Ser Gly Thr Ile Pro Asn Phe Ser His Arg Gly Ser Asp Thr
1160 1165 1170

Ala Pro Ser Met Val Thr Ser Pro Gly Val Asp Thr Arg Ser Gly
1175 1180 1185

Val Pro Thr Thr Thr Ile Pro Pro Ser Ile Pro Gly Val Val Thr
1190 1195 1200

Ser Gln Val Thr Ser Ser Ala Thr Asp Thr Ser Thr Ala Ile Pro
1205 1210 1215

Thr Leu Thr Pro Ser Pro Gly Glu Pro Glu Thr Thr Ala Ser Ser
1220 1225 1230

Ala Thr His Pro Gly Thr Gln Thr Gly Phe Thr Val Pro Ile Arg
1235 1240 1245

Thr Val Pro Ser Ser Glu Pro Asp Thr Met Ala Ser Trp Val Thr
1250 1255 1260

His Pro Pro Gln Thr Ser Thr Pro Val Ser Arg Thr Thr Ser Ser
1265 1270 1275

Phe Ser His Ser Ser Pro Asp Ala Thr Pro Val Met Ala Thr Ser
1280 1285 1290

Pro Arg Thr Glu Ala Ser Ser Ala Val Leu Thr Thr Ile Ser Pro
1295 1300 1305

Gly Ala Pro Glu Met Val Thr Ser Gln Ile Thr Ser Ser Gly Ala
1310 1315 1320

Ala Thr Ser Thr Thr Val Pro Thr Leu Thr His Ser Pro Gly Met
1325 1330 1335

Pro Glu Thr Thr Ala Leu Leu Ser Thr His Pro Arg Thr Glu Thr
1340 1345 1350

Ser Lys Thr Phe Pro Ala Ser Thr Val Phe Pro Gln Val Ser Glu

1355 1360 1365

Thr Thr Ala Ser Leu Thr Ile Arg Pro Gly Ala Glu Thr Ser Thr
1370 1375 1380

Ala Leu Pro Thr Gln Thr Thr Ser Ser Leu Phe Thr Leu Leu Val
1385 1390 1395

Thr Gly Thr Ser Arg Val Asp Leu Ser Pro Thr Ala Ser Pro Gly
1400 1405 1410

Val Ser Ala Lys Thr Ala Pro Leu Ser Thr His Pro Gly Thr Glu
1415 1420 1425

Thr Ser Thr Met Ile Pro Thr Ser Thr Leu Ser Leu Gly Leu Leu
1430 1435 1440

Glu Thr Thr Gly Leu Leu Ala Thr Ser Ser Ser Ala Glu Thr Ser
1445 1450 1455

Thr Ser Thr Leu Thr Leu Thr Val Ser Pro Ala Val Ser Gly Leu
1460 1465 1470

Ser Ser Ala Ser Ile Thr Thr Asp Lys Pro Gln Thr Val Thr Ser
1475 1480 1485

Trp Asn Thr Glu Thr Ser Pro Ser Val Thr Ser Val Gly Pro Pro
1490 1495 1500

Glu Phe Ser Arg Thr Val Thr Gly Thr Thr Met Thr Leu Ile Pro
1505 1510 1515

Ser Glu Met Pro Thr Pro Pro Lys Thr Ser His Gly Glu Gly Val
1520 1525 1530

Ser Pro Thr Thr Ile Leu Arg Thr Thr Met Val Glu Ala Thr Asn
1535 1540 1545

Leu Ala Thr Thr Gly Ser Ser Pro Thr Val Ala Lys Thr Thr Thr
1550 1555 1560

Thr Phe Asn Thr Leu Ala Gly Ser Leu Phe Thr Pro Leu Thr Thr
1565 1570 1575

Pro Gly Met Ser Thr Leu Ala Ser Glu Ser Val Thr Ser Arg Thr
1580 1585 1590

Ser Tyr Asn His Arg Ser Trp Ile Ser Thr Thr Ser Ser Tyr Asn
1595 1600 1605

Arg Arg Tyr Trp Thr Pro Ala Thr Ser Thr Pro Val Thr Ser Thr
1610 1615 1620

Phe Ser Pro Gly Ile Ser Thr Ser Ser Ile Pro Ser Ser Thr Ala
1625 1630 1635

Ala Thr Val Pro Phe Met Val Pro Phe Thr Leu Asn Phe Thr Ile
1640 1645 1650

Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg
1655 1660 1665

Lys Phe Asn Ala Thr Glu Arg Glu Leu Gln Gly Leu Leu Lys Pro
1670 1675 1680

Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu Tyr Ser Gly Cys Arg
1685 1690 1695

Leu Ala Ser Leu Arg Pro Glu Lys Asp Ser Ser Ala Met Ala Val
1700 1705 1710

Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu Asp Leu Gly Leu
1715 1720 1725

Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn Leu Thr Asn Gly
1730 1735 1740

Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr
1745 1750 1755

Val Asn Gly Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr
1760 1765 1770

Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser
1775 1780 1785

Ser Ser Pro Ser Pro Thr Ala Ala Gly Pro Leu Leu Met Pro Phe
1790 1795 1800

Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met
1805 1810 1815

Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu
1820 1825 1830

Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro
1835 1840 1845

Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp
1850 1855 1860

Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp
1865 1870 1875

Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu
1880 1885 1890

Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu
1895 1900 1905

Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser
1910 1915 1920

Val Ser Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Arg
1925 1930 1935

Thr Ser Gly Thr Pro Ser Ser Leu Ser Ser Pro Thr Ile Met Ala
1940 1945 1950

Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1955 1960 1965

Asn Leu Gln Tyr Gly Glu Asp Met Gly His Pro Gly Ser Arg Lys
1970 1975 1980

Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Ile
1985 1990 1995

Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu
2000 2005 2010

Thr Ser Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp
2015 2020 2025

Ala Ile Cys Ile His His Leu Asp Pro Lys Ser Pro Gly Leu Asn
2030 2035 2040

Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile
2045 2050 2055

Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val
2060 2065 2070

Asn Gly Phe Thr His Arg Thr Ser Val Pro Thr Ser Ser Thr Pro
2075 2080 2085

Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Phe Ser
2090 2095 2100

Leu Pro Ser Pro Ala Thr Ala Gly Pro Leu Leu Val Leu Phe Thr
2105 2110 2115

Leu Asn Phe Thr Ile Thr Asn Leu Lys Tyr Glu Glu Asp Met His
2120 2125 2130

Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln
2135 2140 2145

Thr Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu
2150 2155 2160

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Ser Glu Lys Asp Gly
2165 2170 2175

Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro
2180 2185 2190

Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser
2195 2200 2205

Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp
2210 2215 2220

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Trp Ile Pro Val
2225 2230 2235

Pro Thr Ser Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Ser

2240 2245 2250

Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ala Ala Gly Pro Leu
2255 2260 2265

Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr
2270 2275 2280

Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr
2285 2290 2295

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr
2300 2305 2310

Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg
2315 2320 2325

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr
2330 2335 2340

His Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu
2345 2350 2355

Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly
2360 2365 2370

Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr
2375 2380 2385

His Gln Thr Ser Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr
2390 2395 2400

Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro
2405 2410 2415

Thr Ser Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr
2420 2425 2430

Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser
2435 2440 2445

Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys
2450 2455 2460

Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys
2465 2470 2475

Arg Leu Thr Leu Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly
2480 2485 2490

Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly
2495 2500 2505

Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn
2510 2515 2520

Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
2525 2530 2535

Tyr Val Asn Gly Phe Thr His Gln Thr Ser Ala Pro Asn Thr Ser
2540 2545 2550

Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro
2555 2560 2565

Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu Leu Val Pro
2570 2575 2580

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
2585 2590 2595

Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val
2600 2605 2610

Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly
2615 2620 2625

Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys
2630 2635 2640

Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser His Arg Leu
2645 2650 2655

Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu
2660 2665 2670

Leu Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr
2675 2680 2685

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser
2690 2695 2700

Ser Val Ala Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu
2705 2710 2715

Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala
2720 2725 2730

Val Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn
2735 2740 2745

Leu Gln Tyr Gly Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe
2750 2755 2760

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Leu Phe
2765 2770 2775

Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Ile
2780 2785 2790

Ser Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala
2795 2800 2805

Ile Cys Thr His His Leu Asn Pro Gln Ser Pro Gly Leu Asp Arg
2810 2815 2820

Glu Gln Leu Tyr Trp Gln Leu Ser Gln Met Thr Asn Gly Ile Lys
2825 2830 2835

Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn
2840 2845 2850

Gly Phe Thr His Arg Ser Ser Gly Leu Thr Thr Ser Thr Pro Trp
2855 2860 2865

Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Pro Val
2870 2875 2880

Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu
2885 2890 2895

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met His Arg
2900 2905 2910

Pro Gly Ser Arg Lys Phe Asn Ala Thr Glu Arg Val Leu Gln Gly
2915 2920 2925

Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr
2930 2935 2940

Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala
2945 2950 2955

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys
2960 2965 2970

Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln
2975 2980 2985

Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg
2990 2995 3000

Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro
3005 3010 3015

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr
3020 3025 3030

Gly Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu
3035 3040 3045

Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr Asn Leu His Tyr
3050 3055 3060

Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr
3065 3070 3075

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr
3080 3085 3090

Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg
3095 3100 3105

Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu
3110 3115 3120

Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu

3125 3130 3135

Tyr Cys Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly
3140 3145 3150

Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr
3155 3160 3165

His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr
3170 3175 3180

Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His
3185 3190 3195

Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr
3200 3205 3210

Ile Thr Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser
3215 3220 3225

Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys
3230 3235 3240

Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys
3245 3250 3255

Arg Leu Thr Leu Leu Arg Pro Glu Lys His Glu Ala Ala Thr Gly
3260 3265 3270

Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly
3275 3280 3285

Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn
3290 3295 3300

Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu
3305 3310 3315

Tyr Val Asn Gly Phe Asn Pro Arg Ser Ser Val Pro Thr Thr Ser
3320 3325 3330

Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro
3335 3340 3345

Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile Pro
3350 3355 3360

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn
3365 3370 3375

Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val
3380 3385 3390

Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly
3395 3400 3405

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys
3410 3415 3420

His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val
3425 3430 3435

Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu
3440 3445 3450

Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa
3455 3460 3465

Leu Asp Arg Xaa Ser Leu Tyr Val Asn Gly Phe Xaa Xaa Xaa Xaa
3470 3475 3480

Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly Thr Ser Xaa Val Xaa Leu
3485 3490 3495

Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa Pro Xaa Xaa Thr Ser Ala
3500 3505 3510

Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn
3515 3520 3525

Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe
3530 3535 3540

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe
3545 3550 3555

Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr
3560 3565 3570

Leu Leu Arg Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala
3575 3580 3585

Ile Cys Ser His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp Arg
3590 3595 3600

Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Ile Lys
3605 3610 3615

Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn
3620 3625 3630

Gly Phe Thr His Arg Ser Ser Val Ala Pro Thr Ser Thr Pro Gly
3635 3640 3645

Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu
3650 3655 3660

Pro Ser Pro Thr Thr Ala Val Pro Leu Leu Val Pro Phe Thr Leu
3665 3670 3675

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Gly Glu Asp Met Arg His
3680 3685 3690

Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly
3695 3700 3705

Leu Leu Gly Pro Leu Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr
3710 3715 3720

Ser Gly Cys Arg Leu Ile Ser Leu Arg Ser Glu Lys Asp Gly Ala
3725 3730 3735

Ala Thr Gly Val Asp Ala Ile Cys Thr His His Leu Asn Pro Gln
3740 3745 3750

Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu Ser Gln
3755 3760 3765

Met Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg
3770 3775 3780

Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu
3785 3790 3795

Thr Thr Ser Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser
3800 3805 3810

Gly Thr Pro Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu
3815 3820 3825

Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr
3830 3835 3840

Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe Asn Ala Thr
3845 3850 3855

Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser
3860 3865 3870

Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg
3875 3880 3885

Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu
3890 3895 3900

Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu
3905 3910 3915

Tyr Trp Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly
3920 3925 3930

Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr
3935 3940 3945

His Gln Ser Ser Met Thr Thr Thr Arg Thr Pro Asp Thr Ser Thr
3950 3955 3960

Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser Leu Ser Gly Pro
3965 3970 3975

Thr Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Cys Thr
3980 3985 3990

Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser
3995 4000 4005

Arg Lys Phe Asn Thr Met Glu Ser Val Leu Gln Gly Leu Leu Lys

4010 4015 4020

Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys
4025 4030 4035

Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Gly
4040 4045 4050

Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly
4055 4060 4065

Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn
4070 4075 4080

Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
4085 4090 4095

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser
4100 4105 4110

Thr Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro
4115 4120 4125

Ser Ser Leu Ser Ser Pro Thr Ile Met Xaa Xaa Xaa Pro Leu Leu
4130 4135 4140

Xaa Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Xaa Tyr Glu
4145 4150 4155

Glu Xaa Met Xaa Xaa Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu
4160 4165 4170

Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser
4175 4180 4185

Val Ser Ser Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro
4190 4195 4200

Glu Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Ala Cys Thr Tyr
4205 4210 4215

Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr
4220 4225 4230

Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro
4235 4240 4245

Tyr Thr Leu Asp Arg Val Ser Leu Tyr Val Asn Gly Phe Asn Pro
4250 4255 4260

Arg Ser Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val
4265 4270 4275

His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr
4280 4285 4290

Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe Thr Leu Asn Phe Thr Ile
4295 4300 4305

Thr Asn Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa Pro Gly Ser Arg
4310 4315 4320

Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro
4325 4330 4335

Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu Tyr Ser Gly Cys Arg
4340 4345 4350

Leu Ala Ser Leu Arg Pro Glu Lys Asp Ser Ser Ala Met Ala Val
4355 4360 4365

Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu Asp Leu Gly Leu
4370 4375 4380

Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn Leu Thr Asn Gly
4385 4390 4395

Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr
4400 4405 4410

Val Asn Gly Phe Thr His Arg Ser Ser Phe Leu Thr Thr Ser Thr
4415 4420 4425

Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser
4430 4435 4440

Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Val Pro Phe
4445 4450 4455

Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met
4460 4465 4470

His Arg Pro Gly Ser Arg Arg Phe Asn Thr Thr Glu Arg Val Leu
4475 4480 4485

Gln Gly Leu Leu Thr Pro Leu Phe Lys Asn Thr Ser Val Gly Pro
4490 4495 4500

Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln
4505 4510 4515

Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val Asp
4520 4525 4530

Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
4535 4540 4545

Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu
4550 4555 4560

Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser Ser
4565 4570 4575

Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala
4580 4585 4590

Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val
4595 4600 4605

Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asp Leu
4610 4615 4620

His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe Asn
4625 4630 4635

Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys
4640 4645 4650

Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu
4655 4660 4665

Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile
4670 4675 4680

Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu
4685 4690 4695

Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu
4700 4705 4710

Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly
4715 4720 4725

Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr
4730 4735 4740

Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro
4745 4750 4755

Gly His Thr Ala Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn
4760 4765 4770

Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro
4775 4780 4785

Gly Ser Arg Lys Phe Ser Thr Thr Glu Arg Val Leu Gln Gly Leu
4790 4795 4800

Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser
4805 4810 4815

Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala
4820 4825 4830

Thr Arg Val Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys Ser
4835 4840 4845

Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu
4850 4855 4860

Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg His
4865 4870 4875

Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr Thr
4880 4885 4890

Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg

4895 4900 4905

Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu
4910 4915 4920

Val Leu Phe Thr Ile Asn Phe Thr Ile Thr Asn Gln Arg Tyr Glu
4925 4930 4935

Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu
4940 4945 4950

Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser
4955 4960 4965

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro
4970 4975 4980

Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr
4985 4990 4995

Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr
5000 5005 5010

Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro
5015 5020 5025

Tyr Thr Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His
5030 5035 5040

Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val
5045 5050 5055

His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His Thr
5060 5065 5070

Ala Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile
5075 5080 5085

Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg
5090 5095 5100

Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro
5105 5110 5115

Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg
5120 5125 5130

Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala Ala Thr Gly Val
5135 5140 5145

Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn Pro Gly Leu
5150 5155 5160

Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Arg Gly
5165 5170 5175

Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu Tyr
5180 5185 5190

Val Asn Gly Phe Thr His Arg Thr Ser Val Pro Thr Thr Ser Thr
5195 5200 5205

Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Phe
5210 5215 5220

Ser Leu Pro Ser Pro Ala Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe
5225 5230 5235

Thr Leu Asn Phe Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met
5240 5245 5250

Xaa Xaa Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
5255 5260 5265

Gln Thr Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu
5270 5275 5280

Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Ser Glu Lys Asp
5285 5290 5295

Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp
5300 5305 5310

Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu
5315 5320 5325

Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu
5330 5335 5340

Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Trp Ile Pro
5345 5350 5355

Val Pro Thr Ser Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly
5360 5365 5370

Ser Gly Thr Pro Ser Leu Pro Ser Ser Pro Thr Thr Ala Gly Pro
5375 5380 5385

Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys
5390 5395 5400

Tyr Glu Glu Asp Met His Cys Pro Gly Ser Arg Lys Phe Asn Thr
5405 5410 5415

Thr Glu Arg Val Leu Gln Ser Leu Leu Gly Pro Met Phe Lys Asn
5420 5425 5430

Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu
5435 5440 5445

Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys
5450 5455 5460

Thr His Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln
5465 5470 5475

Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu
5480 5485 5490

```
Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe
    5495                5500                5505

Thr His Gln Thr Ser Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser
    5510                5515                5520

Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser
    5525                5530                5535

Pro Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe Thr Leu Asn Phe
    5540                5545                5550

Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa Pro Gly
    5555                5560                5565

Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu
    5570                5575                5580

Xaa Pro Xaa Phe Lys Xaa Thr Ser Val Gly Xaa Leu Tyr Ser Gly
    5585                5590                5595

Cys Arg Leu Thr Leu Leu Arg Xaa Glu Lys Xaa Xaa Ala Ala Thr
    5600                5605                5610

Xaa Val Asp Xaa Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Pro
    5615                5620                5625

Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr
    5630                5635                5640

Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser
    5645                5650                5655

Leu Tyr Val Asn Gly Phe Thr His Trp Ile Pro Val Pro Thr Ser
    5660                5665                5670

Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Ser Gly Thr Pro
    5675                5680                5685

Ser Ser Leu Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Val Pro
    5690                5695                5700

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys Tyr Glu Glu Asp
    5705                5710                5715

Met His Cys Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val
    5720                5725                5730

Leu Gln Ser Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly
    5735                5740                5745

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Ser Glu Lys
    5750                5755                5760

Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Val
    5765                5770                5775

Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu
```

5780 5785 5790

Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr
5795 5800 5805

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr
5810 5815 5820

Ser Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu
5825 5830 5835

Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala
5840 5845 5850

Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn
5855 5860 5865

Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe
5870 5875 5880

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe
5885 5890 5895

Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr
5900 5905 5910

Leu Leu Arg Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala
5915 5920 5925

Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp Arg
5930 5935 5940

Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa
5945 5950 5955

Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn
5960 5965 5970

Gly Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly
5975 5980 5985

Thr Ser Xaa Val Xaa Leu Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa
5990 5995 6000

Pro Xaa Xaa Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe Thr Leu
6005 6010 6015

Asn Phe Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa
6020 6025 6030

Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly
6035 6040 6045

Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu Tyr
6050 6055 6060

Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu Lys Asp Ser Ser
6065 6070 6075

Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu
6080 6085 6090

Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn
6095 6100 6105

Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg
6110 6115 6120

Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro
6125 6130 6135

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser
6140 6145 6150

Gly Thr Pro Ser Ser Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu
6155 6160 6165

Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr
6170 6175 6180

Gly Glu Asp Met Gly His Pro Gly Ser Arg Lys Phe Asn Thr Thr
6185 6190 6195

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Ile Phe Lys Asn Thr
6200 6205 6210

Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg
6215 6220 6225

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Ile
6230 6235 6240

His His Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Arg Leu
6245 6250 6255

Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly
6260 6265 6270

Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr
6275 6280 6285

His Arg Thr Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr
6290 6295 6300

Val Asp Leu Gly Thr Ser Gly Thr Pro Phe Ser Leu Pro Ser Pro
6305 6310 6315

Ala Thr Ala Gly Pro Leu Leu Val Leu Phe Thr Leu Asn Phe Thr
6320 6325 6330

Ile Thr Asn Leu Lys Tyr Glu Glu Asp Met His Arg Pro Gly Ser
6335 6340 6345

Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Thr Leu Leu Gly
6350 6355 6360

Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys
6365 6370 6375

Arg Leu Thr Leu Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly
6380 6385 6390

Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly
6395 6400 6405

Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa
6410 6415 6420

Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu
6425 6430 6435

Tyr Val Asn Gly Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser
6440 6445 6450

Thr Pro Gly Thr Ser Xaa Val Xaa Leu Xaa Thr Ser Gly Thr Pro
6455 6460 6465

Xaa Xaa Xaa Pro Xaa Xaa Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro
6470 6475 6480

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa
6485 6490 6495

Met Xaa Xaa Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val
6500 6505 6510

Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly
6515 6520 6525

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys
6530 6535 6540

Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro
6545 6550 6555

Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu
6560 6565 6570

Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr
6575 6580 6585

Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser
6590 6595 6600

Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu
6605 6610 6615

Glu Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro
6620 6625 6630

Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr Asn
6635 6640 6645

Leu Arg Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
6650 6655 6660

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Thr Pro Leu Phe

6665 6670 6675

Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr
6680 6685 6690

Leu Leu Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly Val Asp Thr
6695 6700 6705

Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg
6710 6715 6720

Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr
6725 6730 6735

Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asp
6740 6745 6750

Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly
6755 6760 6765

Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Pro Leu
6770 6775 6780

Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu
6785 6790 6795

Asn Phe Thr Ile Thr Asp Leu His Tyr Glu Glu Asn Met Gln His
6800 6805 6810

Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly
6815 6820 6825

Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr
6830 6835 6840

Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala
6845 6850 6855

Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr
6860 6865 6870

Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln
6875 6880 6885

Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg
6890 6895 6900

Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser Ser Val Pro
6905 6910 6915

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser
6920 6925 6930

Gly Thr Pro Ser Ser Leu Pro Gly His Thr Thr Ala Gly Pro Leu
6935 6940 6945

Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys Tyr
6950 6955 6960

Glu Glu Asp Met His Cys Pro Gly Ser Arg Lys Phe Asn Thr Thr
6965 6970 6975

Glu Arg Val Leu Gln Ser Leu His Gly Pro Met Phe Lys Asn Thr
6980 6985 6990

Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg
6995 7000 7005

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr
7010 7015 7020

His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Xaa Leu
7025 7030 7035

Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly
7040 7045 7050

Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn Gly Phe Xaa
7055 7060 7065

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly Thr Ser Xaa
7070 7075 7080

Val Xaa Leu Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa Pro Xaa Xaa
7085 7090 7095

Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe Thr Leu Asn Phe Thr
7100 7105 7110

Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa Pro Gly Ser
7115 7120 7125

Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Xaa
7130 7135 7140

Pro Xaa Phe Lys Xaa Thr Ser Val Gly Xaa Leu Tyr Ser Gly Cys
7145 7150 7155

Arg Leu Thr Leu Leu Arg Xaa Glu Lys Xaa Xaa Ala Ala Thr Xaa
7160 7165 7170

Val Asp Xaa Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Pro Gly
7175 7180 7185

Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Asn
7190 7195 7200

Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu
7205 7210 7215

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser
7220 7225 7230

Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro
7235 7240 7245

Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Val Pro
7250 7255 7260

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
7265 7270 7275

Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val
7280 7285 7290

Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly
7295 7300 7305

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys
7310 7315 7320

Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu
7325 7330 7335

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu
7340 7345 7350

Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa
7355 7360 7365

Leu Asp Arg Xaa Ser Leu Tyr Val Asn Gly Phe Xaa Xaa Xaa Xaa
7370 7375 7380

Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly Thr Ser Xaa Val Xaa Leu
7385 7390 7395

Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa Pro Xaa Xaa Thr Xaa Xaa
7400 7405 7410

Xaa Pro Leu Leu Xaa Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn
7415 7420 7425

Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa Pro Gly Ser Arg Lys Phe
7430 7435 7440

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Xaa Pro Xaa Phe
7445 7450 7455

Lys Xaa Thr Ser Val Gly Xaa Leu Tyr Ser Gly Cys Arg Leu Thr
7460 7465 7470

Leu Leu Arg Xaa Glu Lys Xaa Xaa Ala Ala Thr Xaa Val Asp Xaa
7475 7480 7485

Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Pro Gly Leu Asp Arg
7490 7495 7500

Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa
7505 7510 7515

Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn
7520 7525 7530

Gly Phe His Pro Arg Ser Ser Val Pro Thr Thr Ser Thr Pro Gly
7535 7540 7545

Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu

```
        7550                7555                7560

Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu
    7565                7570                7575

Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn Met Gln His
    7580                7585                7590

Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly
    7595                7600                7605

Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr
    7610                7615                7620

Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asn Gly Ala
    7625                7630                7635

Ala Thr Gly Met Asp Ala Ile Cys Ser His Arg Leu Asp Pro Lys
    7640                7645                7650

Ser Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa
    7655                7660                7665

Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg
    7670                7675                7680

Xaa Ser Leu Tyr Val Asn Gly Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa
    7685                7690                7695

Xaa Thr Ser Thr Pro Gly Thr Ser Xaa Val Xaa Leu Xaa Thr Ser
    7700                7705                7710

Gly Thr Pro Xaa Xaa Xaa Pro Xaa Xaa Thr Xaa Xaa Xaa Pro Leu
    7715                7720                7725

Leu Xaa Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Xaa Tyr
    7730                7735                7740

Glu Glu Xaa Met Xaa Xaa Pro Gly Ser Arg Lys Phe Asn Thr Thr
    7745                7750                7755

Glu Arg Val Leu Gln Gly Leu Leu Xaa Pro Xaa Phe Lys Xaa Thr
    7760                7765                7770

Ser Val Gly Xaa Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg
    7775                7780                7785

Xaa Glu Lys Xaa Xaa Ala Ala Thr Xaa Val Asp Xaa Xaa Cys Xaa
    7790                7795                7800

Xaa Xaa Xaa Asp Pro Xaa Xaa Pro Gly Leu Asp Arg Glu Xaa Leu
    7805                7810                7815

Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly
    7820                7825                7830

Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn Gly Phe Thr
    7835                7840                7845
```

His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr
7850 7855 7860

Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His
7865 7870 7875

Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr
7880 7885 7890

Ile Thr Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser
7895 7900 7905

Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Thr
7910 7915 7920

Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys
7925 7930 7935

Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly
7940 7945 7950

Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly
7955 7960 7965

Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa
7970 7975 7980

Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu
7985 7990 7995

Tyr Val Asn Gly Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser
8000 8005 8010

Thr Pro Gly Thr Ser Xaa Val Xaa Leu Xaa Thr Ser Gly Thr Pro
8015 8020 8025

Xaa Xaa Xaa Pro Xaa Xaa Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro
8030 8035 8040

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa
8045 8050 8055

Met Xaa Xaa Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val
8060 8065 8070

Leu Gln Gly Leu Leu Xaa Pro Xaa Phe Lys Xaa Thr Ser Val Gly
8075 8080 8085

Xaa Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Xaa Glu Lys
8090 8095 8100

Xaa Xaa Ala Ala Thr Xaa Val Asp Xaa Xaa Cys Xaa Xaa Xaa Xaa
8105 8110 8115

Asp Pro Xaa Xaa Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu
8120 8125 8130

Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa
8135 8140 8145

Leu Asp Arg Xaa Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser
8150 8155 8160

Ser Val Pro Thr Thr Ser Ser Pro Gly Thr Ser Thr Val His Leu
8165 8170 8175

Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro
8180 8185 8190

Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn
8195 8200 8205

Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
8210 8215 8220

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe
8225 8230 8235

Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr
8240 8245 8250

Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala
8255 8260 8265

Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg
8270 8275 8280

Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa
8285 8290 8295

Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn
8300 8305 8310

Gly Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly
8315 8320 8325

Thr Ser Xaa Val Xaa Leu Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa
8330 8335 8340

Pro Xaa Xaa Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe Thr Leu
8345 8350 8355

Asn Phe Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa
8360 8365 8370

Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly
8375 8380 8385

Leu Leu Xaa Pro Xaa Phe Lys Xaa Thr Ser Val Gly Xaa Leu Tyr
8390 8395 8400

Ser Gly Cys Arg Leu Thr Leu Leu Arg Xaa Glu Lys Xaa Xaa Ala
8405 8410 8415

Ala Thr Xaa Val Asp Xaa Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa
8420 8425 8430

Xaa Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa

8435 8440 8445

Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg
8450 8455 8460

Xaa Ser Leu Tyr Val Asn Gly Phe Thr His Arg Thr Ser Val Pro
8465 8470 8475

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser
8480 8485 8490

Gly Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro Leu
8495 8500 8505

Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr
8510 8515 8520

Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr
8525 8530 8535

Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser
8540 8545 8550

Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg
8555 8560 8565

Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu
8570 8575 8580

Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu
8585 8590 8595

Tyr Cys Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly
8600 8605 8610

Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr
8615 8620 8625

His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr
8630 8635 8640

Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His
8645 8650 8655

Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe Thr Leu Asn Phe Thr
8660 8665 8670

Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa Pro Gly Ser
8675 8680 8685

Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Xaa
8690 8695 8700

Pro Xaa Phe Lys Xaa Thr Ser Val Gly Xaa Leu Tyr Ser Gly Cys
8705 8710 8715

Arg Leu Thr Leu Leu Arg Xaa Glu Lys Xaa Xaa Ala Ala Thr Xaa
8720 8725 8730

Val Asp Xaa Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Pro Gly
8735 8740 8745

Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa
8750 8755 8760

Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu
8765 8770 8775

Tyr Val Asn Gly Phe Thr His Trp Ser Ser Gly Leu Thr Thr Ser
8780 8785 8790

Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro
8795 8800 8805

Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Val Pro
8810 8815 8820

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
8825 8830 8835

Met His Arg Pro Gly Ser Arg Lys Phe Asn Ala Thr Glu Arg Val
8840 8845 8850

Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Thr Ser Val Gly
8855 8860 8865

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys
8870 8875 8880

Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val
8885 8890 8895

Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu
8900 8905 8910

Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa
8915 8920 8925

Leu Asp Arg Xaa Ser Leu Tyr Val Asn Gly Phe Xaa Xaa Xaa Xaa
8930 8935 8940

Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly Thr Ser Xaa Val Xaa Leu
8945 8950 8955

Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa Pro Xaa Xaa Thr Xaa Xaa
8960 8965 8970

Xaa Pro Leu Leu Xaa Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn
8975 8980 8985

Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa Pro Gly Ser Arg Lys Phe
8990 8995 9000

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Xaa Pro Xaa Phe
9005 9010 9015

Lys Xaa Thr Ser Val Gly Xaa Leu Tyr Ser Gly Cys Arg Leu Thr
9020 9025 9030

Leu Leu Arg Xaa Glu Lys Xaa Xaa Ala Ala Thr Xaa Val Asp Xaa
9035 9040 9045

Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Pro Gly Leu Asp Arg
9050 9055 9060

Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa
9065 9070 9075

Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn
9080 9085 9090

Gly Phe Thr His Arg Ser Phe Gly Leu Thr Thr Ser Thr Pro Trp
9095 9100 9105

Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Pro Val
9110 9115 9120

Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu
9125 9130 9135

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met His Arg
9140 9145 9150

Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly
9155 9160 9165

Leu Leu Thr Pro Leu Phe Arg Asn Thr Ser Val Ser Ser Leu Tyr
9170 9175 9180

Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala
9185 9190 9195

Ala Thr Arg Val Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys
9200 9205 9210

Ser Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa
9215 9220 9225

Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg
9230 9235 9240

Xaa Ser Leu Tyr Val Asn Gly Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa
9245 9250 9255

Xaa Thr Ser Thr Pro Gly Thr Ser Xaa Val Xaa Leu Xaa Thr Ser
9260 9265 9270

Gly Thr Pro Xaa Xaa Xaa Pro Xaa Xaa Thr Xaa Xaa Xaa Pro Leu
9275 9280 9285

Leu Xaa Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Xaa Tyr
9290 9295 9300

Glu Glu Xaa Met Xaa Xaa Pro Gly Ser Arg Lys Phe Asn Thr Thr
9305 9310 9315

Glu Arg Val Leu Gln Gly Leu Leu Xaa Pro Xaa Phe Lys Xaa Thr

9320 9325 9330

Ser Val Gly Xaa Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg
9335 9340 9345

Xaa Glu Lys Xaa Xaa Ala Ala Thr Xaa Val Asp Xaa Xaa Cys Xaa
9350 9355 9360

Xaa Xaa Xaa Asp Pro Xaa Xaa Pro Gly Leu Asp Arg Glu Xaa Leu
9365 9370 9375

Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly
9380 9385 9390

Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn Gly Phe Thr
9395 9400 9405

His Trp Ile Pro Val Pro Thr Ser Ser Thr Pro Gly Thr Ser Thr
9410 9415 9420

Val Asp Leu Gly Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr
9425 9430 9435

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile
9440 9445 9450

Thr Asn Leu Gln Tyr Gly Glu Asp Met Gly His Pro Gly Ser Arg
9455 9460 9465

Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro
9470 9475 9480

Ile Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg
9485 9490 9495

Leu Thr Ser Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val
9500 9505 9510

Asp Ala Ile Cys Ile His His Leu Asp Pro Lys Ser Pro Gly Leu
9515 9520 9525

Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa
9530 9535 9540

Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr
9545 9550 9555

Val Asn Gly Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser Thr
9560 9565 9570

Pro Gly Thr Ser Xaa Val Xaa Leu Xaa Thr Ser Gly Thr Pro Xaa
9575 9580 9585

Xaa Xaa Pro Xaa Xaa Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe
9590 9595 9600

Thr Leu Asn Phe Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met
9605 9610 9615

Xaa Xaa Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
9620 9625 9630

Gln Gly Leu Leu Xaa Pro Xaa Phe Lys Xaa Thr Ser Val Gly Xaa
9635 9640 9645

Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Xaa Glu Lys Xaa
9650 9655 9660

Xaa Ala Ala Thr Xaa Val Asp Xaa Xaa Cys Xaa Xaa Xaa Xaa Asp
9665 9670 9675

Pro Xaa Xaa Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu
9680 9685 9690

Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu
9695 9700 9705

Asp Arg Xaa Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr Phe
9710 9715 9720

Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly
9725 9730 9735

Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly
9740 9745 9750

Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu
9755 9760 9765

Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe Asn
9770 9775 9780

Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys
9785 9790 9795

Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu
9800 9805 9810

Leu Arg Pro Glu Lys Asn Gly Ala Ala Thr Arg Val Asp Ala Val
9815 9820 9825

Cys Thr His Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu
9830 9835 9840

Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu
9845 9850 9855

Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn Gly
9860 9865 9870

Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly Thr
9875 9880 9885

Ser Xaa Val Xaa Leu Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa Pro
9890 9895 9900

Xaa Xaa Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn
9905 9910 9915

Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn Met Gln His Pro
9920 9925 9930

Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
9935 9940 9945

Leu Arg Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser
9950 9955 9960

Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala
9965 9970 9975

Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly
9980 9985 9990

Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu
9995 10000 10005

Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp
10010 10015 10020

Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro Thr
10025 10030 10035

Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly
10040 10045 10050

Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu
10055 10060 10065

Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu
10070 10075 10080

Val Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu
10085 10090 10095

Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
10100 10105 10110

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro
10115 10120 10125

Glu Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His
10130 10135 10140

Arg Leu Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr
10145 10150 10155

Trp Glu Leu Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro
10160 10165 10170

Tyr Leu Leu Asp Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His
10175 10180 10185

Arg Asn Phe Val Pro Ile Thr Ser Thr Pro Gly Thr Ser Thr Val
10190 10195 10200

His Leu Gly Thr Ser Glu Thr Pro Ser Ser Leu Pro Arg Pro Ile

10205 10210 10215

Val Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile
10220 10225 10230

Thr Asn Leu Gln Tyr Glu Glu Ala Met Arg His Pro Gly Ser Arg
10235 10240 10245

Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Arg Pro
10250 10255 10260

Leu Phe Lys Asn Thr Ser Ile Gly Pro Leu Tyr Ser Ser Cys Arg
10265 10270 10275

Leu Thr Leu Leu Arg Pro Glu Lys Asp Lys Ala Ala Thr Arg Val
10280 10285 10290

Asp Ala Ile Cys Thr His His Pro Asp Pro Gln Ser Pro Gly Leu
10295 10300 10305

Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Gly
10310 10315 10320

Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr
10325 10330 10335

Val Asp Gly Phe Thr His Trp Ser Pro Ile Pro Thr Thr Ser Thr
10340 10345 10350

Pro Gly Thr Ser Ile Val Asn Leu Gly Thr Ser Gly Ile Pro Pro
10355 10360 10365

Ser Leu Pro Glu Thr Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe
10370 10375 10380

Thr Leu Asn Phe Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met
10385 10390 10395

Xaa Xaa Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
10400 10405 10410

Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro
10415 10420 10425

Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp
10430 10435 10440

Gly Val Ala Thr Arg Val Asp Ala Ile Cys Thr His Arg Pro Asp
10445 10450 10455

Pro Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp Glu Leu
10460 10465 10470

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu
10475 10480 10485

Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser
10490 10495 10500

Val Pro Thr Thr Ser Thr Pro Gly Thr Phe Thr Val Gln Pro Glu
10505 10510 10515

Thr Ser Glu Thr Pro Ser Ser Leu Pro Gly Pro Thr Ala Thr Gly
10520 10525 10530

Pro Val Leu Leu Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu
10535 10540 10545

Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe Asn
10550 10555 10560

Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Met Pro Leu Phe Lys
10565 10570 10575

Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly Cys Arg Leu Thr Leu
10580 10585 10590

Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Val
10595 10600 10605

Cys Thr His Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu
10610 10615 10620

Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr His Gly Ile Thr Glu
10625 10630 10635

Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Leu Tyr Val Asn Gly
10640 10645 10650

Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr Pro Asp Thr
10655 10660 10665

Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser Leu Ser
10670 10675 10680

Gly Pro Thr Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn
10685 10690 10695

Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn Met His His Pro
10700 10705 10710

Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
10715 10720 10725

Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser
10730 10735 10740

Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala
10745 10750 10755

Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser
10760 10765 10770

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu
10775 10780 10785

Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Gln Asp Arg Asp
10790 10795 10800

Ser Leu Tyr Asn Val Gly Phe Thr Gln Arg Ser Ser Val Pro Thr
10805 10810 10815

Thr Ser Val Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly
10820 10825 10830

Thr Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu
10835 10840 10845

Val Leu Phe Thr Leu Asn Gly Thr Ile Thr Asn Leu Arg Tyr Glu
10850 10855 10860

Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu
10865 10870 10875

Arg Val Leu Gln Gly Leu Leu Arg Ser Leu Phe Lys Ser Thr Ser
10880 10885 10890

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro
10895 10900 10905

Glu Lys Asp Gly Thr Ala Thr Gly Val Asp Ala Ile Cys Thr His
10910 10915 10920

His Pro Asp Pro Lys Ser Pro Arg Leu Asp Arg Glu Gln Leu Tyr
10925 10930 10935

Trp Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly His
10940 10945 10950

Tyr Ala Leu Asp Asn Asp Ser Leu Phe Val Asn Gly Phe Thr His
10955 10960 10965

Arg Ser Ser Val Ser Thr Thr Ser Thr Pro Gly Thr Pro Thr Val
10970 10975 10980

Tyr Leu Gly Ala Ser Lys Thr Pro Ala Ser Ile Phe Gly Pro Ser
10985 10990 10995

Ala Ala Ser His Leu Leu Ile Leu Phe Thr Leu Asn Phe Thr Ile
11000 11005 11010

Thr Asn Leu Arg Tyr Glu Glu Asn Met Trp Pro Gly Ser Arg Lys
11015 11020 11025

Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Leu
11030 11035 11040

Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Ser Arg Leu
11045 11050 11055

Thr Leu Leu Arg Pro Glu Lys Asp Gly Glu Ala Thr Gly Val Asp
11060 11065 11070

Ala Ile Cys Thr His Arg Pro Asp Pro Thr Gly Pro Gly Leu Asp
11075 11080 11085

Arg Glu Gln Leu Tyr Leu Glu Leu Ser Gln Leu Thr His Ser Ile

11090 11095 11100

Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val
11105 11110 11115

Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Thr Gly
11120 11125 11130

Val Val Ser Glu Glu Pro Phe Thr Leu Asn Phe Thr Ile Asn Asn
11135 11140 11145

Leu Arg Tyr Met Ala Asp Met Gly Gln Pro Gly Ser Leu Lys Phe
11150 11155 11160

Asn Ile Thr Asp Asn Val Met Lys His Leu Leu Ser Pro Leu Phe
11165 11170 11175

Gln Arg Ser Ser Leu Gly Ala Arg Tyr Thr Gly Cys Arg Val Ile
11180 11185 11190

Ala Leu Arg Ser Val Lys Asn Gly Ala Glu Thr Arg Val Asp Leu
11195 11200 11205

Leu Cys Thr Tyr Leu Gln Pro Leu Ser Gly Pro Gly Leu Pro Ile
11210 11215 11220

Lys Gln Val Phe His Glu Leu Ser Gln Gln Thr His Gly Ile Thr
11225 11230 11235

Arg Leu Gly Pro Tyr Ser Leu Asp Lys Asp Ser Leu Tyr Leu Asn
11240 11245 11250

Gly Tyr Asn Glu Pro Gly Leu Asp Glu Pro Pro Thr Thr Pro Lys
11255 11260 11265

Pro Ala Thr Thr Phe Leu Pro Pro Leu Ser Glu Ala Thr Thr Ala
11270 11275 11280

Met Gly Tyr His Leu Lys Thr Leu Thr Leu Asn Phe Thr Ile Ser
11285 11290 11295

Asn Leu Gln Tyr Ser Pro Asp Met Gly Lys Gly Ser Ala Thr Phe
11300 11305 11310

Asn Ser Thr Glu Gly Val Leu Gln His Leu Leu Arg Pro Leu Phe
11315 11320 11325

Gln Lys Ser Ser Met Gly Pro Phe Tyr Leu Gly Cys Gln Leu Ile
11330 11335 11340

Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Thr
11345 11350 11355

Thr Cys Thr Tyr His Pro Asp Pro Val Gly Pro Gly Leu Asp Ile
11360 11365 11370

Gln Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Val Thr
11375 11380 11385

Gln Leu Gly Phe Tyr Val Leu Asp Arg Asp Ser Leu Phe Ile Asn
11390 11395 11400

Gly Tyr Ala Pro Gln Asn Leu Ser Ile Arg Gly Glu Tyr Gln Ile
11405 11410 11415

Asn Phe His Ile Val Asn Trp Asn Leu Ser Asn Pro Asp Pro Thr
11420 11425 11430

Ser Ser Glu Tyr Ile Thr Leu Leu Arg Asp Ile Gln Asp Lys Val
11435 11440 11445

Thr Thr Leu Tyr Lys Gly Ser Gln Leu His Asp Thr Phe Arg Phe
11450 11455 11460

Cys Leu Val Thr Asn Leu Thr Met Asp Ser Val Leu Val Thr Val
11465 11470 11475

Lys Ala Leu Phe Ser Ser Asn Leu Asp Pro Ser Leu Val Glu Gln
11480 11485 11490

Val Phe Leu Asp Lys Thr Leu Asn Ala Ser Phe His Trp Leu Gly
11495 11500 11505

Ser Thr Tyr Gln Leu Val Asp Ile His Val Thr Glu Met Glu Ser
11510 11515 11520

Ser Val Tyr Gln Pro Thr Ser Ser Ser Ser Thr Gln His Phe Tyr
11525 11530 11535

Leu Asn Phe Thr Ile Thr Asn Leu Pro Tyr Ser Gln Asp Lys Ala
11540 11545 11550

Gln Pro Gly Thr Thr Asn Tyr Gln Arg Asn Lys Arg Asn Ile Glu
11555 11560 11565

Asp Ala Leu Asn Gln Leu Phe Arg Asn Ser Ser Ile Lys Ser Tyr
11570 11575 11580

Phe Ser Asp Cys Gln Val Ser Thr Phe Arg Ser Val Pro Asn Arg
11585 11590 11595

His His Thr Gly Val Asp Ser Leu Cys Asn Phe Ser Pro Leu Ala
11600 11605 11610

Arg Arg Val Asp Arg Val Ala Ile Tyr Glu Glu Phe Leu Arg Met
11615 11620 11625

Thr Arg Asn Gly Thr Gln Leu Gln Asn Phe Thr Leu Asp Arg Ser
11630 11635 11640

Ser Val Leu Val Asp Gly Tyr Ser Pro Asn Arg Asn Glu Pro Leu
11645 11650 11655

Thr Gly Asn Ser Asp Leu Pro Phe Trp Ala Val Ile Leu Ile Gly
11660 11665 11670

Leu Ala Gly Leu Leu Gly Leu Ile Thr Cys Leu Ile Cys Gly Val
11675 11680 11685

Leu Val Thr Thr Arg Arg Arg Lys Lys Glu Gly Glu Tyr Asn Val
11690 11695 11700

Gln Gln Gln Cys Pro Gly Tyr Tyr Gln Ser His Leu Asp Leu Glu
11705 11710 11715

Asp Leu Gln
11720

<210> 163

<211> 156

<212> PRT

<213> Homo sapiens

<400> 163

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe
20 25 30

Asn Ala Thr Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys
35 40 45

Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu
50 55 60

Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu
65 70 75 80

Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr
85 90 95

Trp Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr
100 105 110

Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn
115 120 125

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala
130 135 140

Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His Thr
145 150 155

<210> 164

<211> 42

<212> PRT

<213> Homo sapiens

<400> 164

Ala Thr Val Pro Phe Met Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe
20 25 30

Asn Ala Thr Glu Arg Glu Leu Gln Gly Leu
35 40

<210> 165

<211> 42

<212> PRT

<213> Homo sapiens

<400> 165

Thr Ala Val Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Gln Tyr Gly Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
35 40

<210> 166

<211> 42

<212> PRT

<213> Homo sapiens

<400> 166

Val Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Gln Tyr Glu Glu Ala Met Arg His Pro Gly Ser Arg Lys Phe
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
35 40

<210> 167

<211> 42

<212> PRT

<213> Homo sapiens

<400> 167

Ala Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe
20 25 30

Ser Thr Thr Glu Arg Val Leu Gln Gly Leu
35 40

<210> 168

<211> 42

<212> PRT

<213> Homo sapiens

<400> 168

Ala Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
35 40

<210> 169

<211> 42

<212> PRT

<213> Homo sapiens

<400> 169

Ala Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Gln Tyr Glu Val Asp Met Arg His Pro Gly Ser Arg Lys Phe
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu

35 40

<210> 170

<211> 42

<212> PRT

<213> Homo sapiens

<400> 170

Ser Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
35 40

<210> 171

<211> 42

<212> PRT

<213> Homo sapiens

<400> 171

Ala Ala Gly Pro Leu Leu Met Pro Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe
20 25 30

Asn Thr Met Glu Ser Val Leu Gln Gly Leu
35 40

<210> 172

<211> 42

<212> PRT

<213> Homo sapiens

<400> 172

Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Cys Thr Ile Thr
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe
20 25 30

Asn Thr Met Glu Ser Val Leu Gln Gly Leu
35 40

<210> 173

<211> 42

<212> PRT

<213> Homo sapiens

<400> 173

Ala Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Gln Tyr Gly Glu Asp Met Gly His Pro Gly Ser Arg Lys Phe
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
35 40

<210> 174

<211> 42

<212> PRT

<213> Homo sapiens

<400> 174

Thr Ala Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Gln Tyr Gly Glu Asp Met Gly His Pro Gly Ser Arg Lys Phe
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
35 40

<210> 175

<211> 42

<212> PRT

<213> Homo sapiens

<400> 175

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Gln Tyr Gly Glu Asp Met Gly His Pro Gly Ser Arg Lys Phe
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
35 40

<210> 176

<211> 42

<212> PRT

<213> Homo sapiens

<400> 176

Thr Ala Gly Pro Leu Leu Val Leu Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Lys Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Thr Leu
35 40

<210> 177

<211> 42

<212> PRT

<213> Homo sapiens

<400> 177

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe
20 25 30

Asn Ala Thr Glu Arg Val Leu Gln Gly Leu
35 40

<210> 178

<211> 42

<212> PRT

<213> Homo sapiens

<400> 178

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Arg Phe
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
35 40

<210> 179

<211> 42

<212> PRT

<213> Homo sapiens

<400> 179

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
35 40

<210> 180

<211> 42

<212> PRT

<213> Homo sapiens

<400> 180

Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
35 40

<210> 181

<211> 42

<212> PRT

<213> Homo sapiens

<400> 181

Ala Thr Gly Pro Val Leu Leu Pro Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
35 40

<210> 182

<211> 42

<212> PRT

<213> Homo sapiens

<400> 182

Ala Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
35 40

<210> 183

<211> 42

<212> PRT

<213> Homo sapiens

<400> 183

Ser Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu

35 40

<210> 184

<211> 42

<212> PRT

<213> Homo sapiens

<400> 184

Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Phe Thr Ile Thr
1 5 10 15

Asn Gln Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
35 40

<210> 185

<211> 42

<212> PRT

<213> Homo sapiens

<400> 185

Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
35 40

<210> 186

<211> 42

<212> PRT

<213> Homo sapiens

<400> 186

Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
35 40

<210> 187

<211> 42

<212> PRT

<213> Homo sapiens

<400> 187

Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Arg Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
35 40

<210> 188

<211> 42

<212> PRT

<213> Homo sapiens

<400> 188

Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
35 40

<210> 189

<211> 42

<212> PRT

<213> Homo sapiens

<400> 189

Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asp Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
35 40

<210> 190

<211> 42

<212> PRT

<213> Homo sapiens

<400> 190

Ala Ala Ser Pro Leu Leu Val Leu Phe Thr Leu Asn Gly Thr Ile Thr
1 5 10 15

Asn Leu Arg Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
35 40

<210> 191

<211> 42

<212> PRT

<213> Homo sapiens

<400> 191

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Lys Tyr Glu Glu Asp Met His Cys Pro Gly Ser Arg Lys Phe
20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Ser Leu
35 40

<210> 192

<211> 41

<212> PRT

<213> Homo sapiens

<400> 192

Ala Ala Ser His Leu Leu Ile Leu Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Arg Tyr Glu Glu Asn Met Trp Pro Gly Ser Arg Lys Phe Asn
20 25 30

Thr Thr Glu Arg Val Leu Gln Gly Leu
35 40

<210> 193

<211> 42

<212> PRT

<213> Homo sapiens

<400> 193

Thr Gly Val Val Ser Glu Glu Pro Phe Thr Leu Asn Phe Thr Ile Asn
1 5 10 15

Asn Leu Arg Tyr Met Ala Asp Met Gly Gln Pro Gly Ser Leu Lys Phe
20 25 30

Asn Ile Thr Asp Asn Val Met Lys His Leu
35 40

<210> 194

<211> 42

<212> PRT

<213> Homo sapiens

<400> 194

Ala Met Gly Tyr His Leu Lys Thr Leu Thr Leu Asn Phe Thr Ile Ser
1 5 10 15

Asn Leu Gln Tyr Ser Pro Asp Met Gly Lys Gly Ser Ala Thr Phe Asn
20 25 30

Ser Thr Glu Gly Val Leu Gln His Leu Leu
35 40

<210> 195

<211> 23

<212> PRT

<213> Homo sapiens

<400> 195

Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu Tyr Ser Gly
1 5 10 15

Cys Arg Leu Ala Ser Leu Arg
20

<210> 196

<211> 23

<212> PRT

<213> Homo sapiens

<400> 196

Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly
1 5 10 15

Cys Arg Leu Thr Leu Leu Arg
20

<210> 197

<211> 23

<212> PRT

<213> Homo sapiens

<400> 197

Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
1 5 10 15

Cys Arg Leu Thr Leu Leu Arg
20

<210> 198

<211> 23

<212> PRT

<213> Homo sapiens

<400> 198

Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly
1 5 10 15

Cys Arg Leu Thr Leu Leu Arg
20

<210> 199

<211> 23

<212> PRT

<213> Homo sapiens

<400> 199

Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Ser
1 5 10 15

Cys Arg Leu Thr Leu Leu Arg
20

<210> 200

<211> 23

<212> PRT

<213> Homo sapiens

<400> 200

Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
1 5 10 15

Cys Arg Leu Thr Ser Leu Arg
20

<210> 201

<211> 23

<212> PRT

<213> Homo sapiens

<400> 201

Leu Gly Pro Ile Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
1 5 10 15

Cys Arg Leu Thr Ser Leu Arg
20

<210> 202

<211> 23

<212> PRT

<213> Homo sapiens

<400> 202

Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly
1 5 10 15

Cys Arg Leu Thr Leu Leu Arg
20

<210> 203

<211> 23

<212> PRT

<213> Homo sapiens

<400> 203

Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
1 5 10 15

Cys Arg Leu Thr Leu Leu Arg
20

<210> 204

<211> 23

<212> PRT

<213> Homo sapiens

<400> 204

Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
1 5 10 15

Cys Arg Leu Thr Ser Leu Arg

20

<210> 205

<211> 23

<212> PRT

<213> Homo sapiens

<400> 205

Leu Gly Pro Leu Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly
1 5 10 15

Cys Arg Leu Ile Ser Leu Arg
20

<210> 206

<211> 23

<212> PRT

<213> Homo sapiens

<400> 206

Leu Gly Pro Leu Phe Lys Asn Ser Ser Val Asp Pro Leu Tyr Ser Gly
1 5 10 15

Cys Arg Leu Thr Ser Leu Arg
20

<210> 207

<211> 23

<212> PRT

<213> Homo sapiens

<400> 207

Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly
1 5 10 15

Cys Arg Leu Thr Ser Leu Arg
20

<210> 208

<211> 23

<212> PRT

<213> Homo sapiens

<400> 208

Leu Ser Pro Ile Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
1 5 10 15

Cys Arg Leu Thr Leu Leu Arg
20

<210> 209

<211> 23

<212> PRT

<213> Homo sapiens

<400> 209

Leu Ser Pro Leu Phe Gln Arg Ser Ser Leu Gly Ala Arg Tyr Thr Gly
1 5 10 15

Cys Arg Val Ile Ala Leu Arg
20

<210> 210

<211> 23

<212> PRT

<213> Homo sapiens

<400> 210

Leu Arg Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly
1 5 10 15

Cys Arg Leu Thr Leu Leu Arg
20

<210> 211

<211> 23

<212> PRT

<213> Homo sapiens

<400> 211

Leu Arg Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
1 5 10 15

Ser Arg Leu Thr Leu Leu Arg
20

<210> 212

<211> 23

<212> PRT

<213> Homo sapiens

<400> 212

Leu Arg Pro Leu Phe Lys Asn Thr Ser Ile Gly Pro Leu Tyr Ser Ser
1 5 10 15

Cys Arg Leu Thr Leu Leu Arg
20

<210> 213

<211> 23

<212> PRT

<213> Homo sapiens

<400> 213

Leu Arg Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly
1 5 10 15

Cys Arg Leu Thr Leu Leu Arg
20

<210> 214

<211> 23

<212> PRT

<213> Homo sapiens

<400> 214

Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly
1 5 10 15

Cys Arg Leu Thr Leu Leu Arg
20

<210> 215

<211> 23

<212> PRT

<213> Homo sapiens

<400> 215

Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
1 5 10 15

Cys Arg Leu Thr Leu Leu Arg
20

<210> 216

<211> 23

<212> PRT

<213> Homo sapiens

<400> 216

Leu Arg Ser Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly
1 5 10 15

Cys Arg Leu Thr Leu Leu Arg
20

<210> 217

<211> 23

<212> PRT

<213> Homo sapiens

<400> 217

Leu Arg Ser Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly
1 5 10 15

Cys Arg Leu Thr Ser Leu Arg

20

<210> 218

<211> 23

<212> PRT

<213> Homo sapiens

<400> 218

Leu Thr Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
1 5 10 15

Cys Arg Leu Thr Leu Leu Arg
20

<210> 219

<211> 23

<212> PRT

<213> Homo sapiens

<400> 219

Leu Thr Pro Leu Phe Arg Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly
1 5 10 15

Cys Arg Leu Thr Leu Leu Arg
20

<210> 220

<211> 23

<212> PRT

<213> Homo sapiens

<400> 220

Leu Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly
1 5 10 15

Cys Arg Leu Thr Leu Leu Arg
20

<210> 221

<211> 22

<212> PRT

<213> Homo sapiens

<400> 221

Arg Pro Leu Phe Gln Lys Ser Ser Met Gly Pro Phe Tyr Leu Gly Cys
1 5 10 15

Gln Leu Ile Ser Leu Arg
20

<210> 222

<211> 58

<212> PRT

<213> Homo sapiens

<400> 222

Pro Glu Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His
1 5 10 15

Arg Pro Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp
20 25 30

Glu Leu Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr
35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
50 55

<210> 223

<211> 58

<212> PRT

<213> Homo sapiens

<400> 223

Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His
1 5 10 15

Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp
20 25 30

Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr

35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
50 55

<210> 224

<211> 58

<212> PRT

<213> Homo sapiens

<400> 224

Pro Lys Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His
1 5 10 15

Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp
20 25 30

Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr
35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
50 55

<210> 225

<211> 58

<212> PRT

<213> Homo sapiens

<400> 225

Pro Glu Lys Asp Gly Thr Ala Thr Gly Val Asp Ala Ile Cys Thr His
1 5 10 15

His Pro Asp Pro Lys Ser Pro Arg Leu Asp Arg Glu Gln Leu Tyr Trp
20 25 30

Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly His Tyr Ala
35 40 45

Leu Asp Asn Asp Ser Leu Phe Val Asn Gly
50 55

<210> 226

<211> 58

<212> PRT

<213> Homo sapiens

<400> 226

Pro Glu Lys Asp Gly Glu Ala Thr Gly Val Asp Ala Ile Cys Thr His
1 5 10 15

Arg Pro Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Gln Leu Tyr Leu
20 25 30

Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr
35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly
50 55

<210> 227

<211> 58

<212> PRT

<213> Homo sapiens

<400> 227

Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr
1 5 10 15

His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp
20 25 30

Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser
35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly
50 55

<210> 228

<211> 58

<212> PRT

<213> Homo sapiens

<400> 228

Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr
1 5 10 15

His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Cys
20 25 30

Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser
35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly
50 55

<210> 229

<211> 58

<212> PRT

<213> Homo sapiens

<400> 229

Pro Glu Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Ala Cys Thr Tyr
1 5 10 15

Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp
20 25 30

Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr
35 40 45

Leu Asp Arg Val Ser Leu Tyr Val Asn Gly
50 55

<210> 230

<211> 58

<212> PRT

<213> Homo sapiens

<400> 230

Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr
1 5 10 15

Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp
20 25 30

Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr
35 40 45

Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly
50 55

<210> 231

<211> 58

<212> PRT

<213> Homo sapiens

<400> 231

```
Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr
1               5                  10                  15

Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp
            20                  25                  30

Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr
        35                  40                  45

Gln Asp Arg Asp Ser Leu Tyr Asn Val Gly
    50                  55
```

<210> 232

<211> 58

<212> PRT

<213> Homo sapiens

<400> 232

```
Pro Glu Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Val Cys Thr His
1               5                  10                  15

Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp
            20                  25                  30

Lys Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr
        35                  40                  45

Leu Asp Arg His Ser Leu Tyr Val Asn Gly
    50                  55
```

<210> 233

<211> 58

<212> PRT

<213> Homo sapiens

<400> 233

```
Pro Glu Lys Asp Gly Val Ala Thr Arg Val Asp Ala Ile Cys Thr His
1               5                  10                  15
```

Arg Pro Asp Pro Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp
20 25 30

Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr
35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly
50 55

<210> 234

<211> 58

<212> PRT

<213> Homo sapiens

<400> 234

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Ile His
1 5 10 15

His Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Arg Leu Tyr Trp
20 25 30

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr
35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
50 55

<210> 235

<211> 58

<212> PRT

<213> Homo sapiens

<400> 235

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His
1 5 10 15

Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp
20 25 30

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr
35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
50 55

<210> 236

<211> 58

<212> PRT

<213> Homo sapiens

<400> 236

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His
1   5   10   15

Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp
            20   25   30

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr
        35   40   45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
    50   55

<210> 237

<211> 58

<212> PRT

<213> Homo sapiens

<400> 237

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His
1   5   10   15

Arg Val Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp
            20   25   30

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr
        35   40   45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
    50   55

<210> 238

<211> 58

<212> PRT

<213> Homo sapiens

<400> 238

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His

1 5 10 15

His Leu Asn Pro Gln Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp
20 25 30

Gln Leu Ser Gln Met Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr
35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
50 55

<210> 239

<211> 58

<212> PRT

<213> Homo sapiens

<400> 239

Pro Glu Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His
1 5 10 15

Arg Leu Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp
20 25 30

Glu Leu Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu
35 40 45

Leu Asp Arg Gly Ser Leu Tyr Val Asn Gly
50 55

<210> 240

<211> 58

<212> PRT

<213> Homo sapiens

<400> 240

Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser His
1 5 10 15

Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp
20 25 30

Glu Leu Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr
35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
50 55

<210> 241

<211> 58

<212> PRT

<213> Homo sapiens

<400> 241

Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser His
1 5 10 15

Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp
20 25 30

Glu Leu Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr
35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
50 55

<210> 242

<211> 58

<212> PRT

<213> Homo sapiens

<400> 242

Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu
1 5 10 15

Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp
20 25 30

Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr
35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly
50 55

<210> 243

<211> 58

<212> PRT

<213> Homo sapiens

<400> 243

Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu
1 5 10 15

Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp
20 25 30

Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr
35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly
50 55

<210> 244

<211> 58

<212> PRT

<213> Homo sapiens

<400> 244

Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His
1 5 10 15

Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp
20 25 30

Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr
35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly
50 55

<210> 245

<211> 58

<212> PRT

<213> Homo sapiens

<400> 245

Pro Glu Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His
1 5 10 15

Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp
20 25 30

Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr
35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly

50 55

<210> 246

<211> 58

<212> PRT

<213> Homo sapiens

<400> 246

Pro Glu Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His
1 5 10 15

Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp
20 25 30

Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr
35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asp Gly
50 55

<210> 247

<211> 58

<212> PRT

<213> Homo sapiens

<400> 247

Pro Glu Lys Asp Lys Ala Ala Thr Arg Val Asp Ala Ile Cys Thr His
1 5 10 15

His Pro Asp Pro Gln Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp
20 25 30

Glu Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr
35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asp Gly
50 55

<210> 248

<211> 58

<212> PRT

<213> Homo sapiens

<400> 248

Ser Val Lys Asn Gly Ala Glu Thr Arg Val Asp Leu Leu Cys Thr Tyr
1 5 10 15

Leu Gln Pro Leu Ser Gly Pro Gly Leu Pro Ile Lys Gln Val Phe His
20 25 30

Glu Leu Ser Gln Gln Thr His Gly Ile Thr Arg Leu Gly Pro Tyr Ser
35 40 45

Leu Asp Lys Asp Ser Leu Tyr Leu Asn Gly
50 55

<210> 249

<211> 58

<212> PRT

<213> Homo sapiens

<400> 249

Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Thr Thr Cys Thr Tyr
1 5 10 15

His Pro Asp Pro Val Gly Pro Gly Leu Asp Ile Gln Gln Leu Tyr Trp
20 25 30

Glu Leu Ser Gln Leu Thr His Gly Val Thr Gln Leu Gly Phe Tyr Val
35 40 45

Leu Asp Arg Asp Ser Leu Phe Ile Asn Gly
50 55

<210> 250

<211> 12

<212> PRT

<213> Homo sapiens

<400> 250

Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr
1 5 10

<210> 251

<211> 12

<212> PRT

<213> Homo sapiens

<400> 251

Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Ile
1 5 10

<210> 252

<211> 12

<212> PRT

<213> Homo sapiens

<400> 252

Phe Thr His Arg Thr Ser Val Pro Thr Ser Ser Thr
1 5 10

<210> 253

<211> 12

<212> PRT

<213> Homo sapiens

<400> 253

Phe Thr His Arg Thr Ser Val Pro Thr Thr Ser Thr
1 5 10

<210> 254

<211> 12

<212> PRT

<213> Homo sapiens

<400> 254

Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ser
1 5 10

<210> 255

<211> 12

<212> PRT

<213> Homo sapiens

<400> 255

Phe Thr His Arg Ser Ser Val Ser Thr Thr Ser Thr
1 5 10

<210> 256

<211> 12

<212> PRT

<213> Homo sapiens

<400> 256

Phe Thr His Arg Ser Ser Val Ala Pro Thr Ser Thr
1 5 10

<210> 257

<211> 12

<212> PRT

<213> Homo sapiens

<400> 257

Phe Thr His Arg Ser Ser Gly Leu Thr Thr Ser Thr
1 5 10

<210> 258

<211> 12

<212> PRT

<213> Homo sapiens

<400> 258

Phe Thr His Arg Ser Phe Gly Leu Thr Thr Ser Thr
1 5 10

<210> 259

<211> 12

<212> PRT

<213> Homo sapiens

<400> 259

Phe Thr His Arg Ser Ser Phe Leu Thr Thr Ser Thr
1 5 10

<210> 260

<211> 12

<212> PRT

<213> Homo sapiens

<400> 260

Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr
1 5 10

<210> 261

<211> 12

<212> PRT

<213> Homo sapiens

<400> 261

Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile
1 5 10

<210> 262

<211> 12

<212> PRT

<213> Homo sapiens

<400> 262

Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr
1 5 10

<210> 263

<211> 12

<212> PRT

<213> Homo sapiens

<400> 263

Phe Thr His Gln Thr Ser Ala Pro Asn Thr Ser Thr
1 5 10

<210> 264

<211> 12

<212> PRT

<213> Homo sapiens

<400> 264

Phe Thr His Gln Thr Phe Ala Pro Asn Thr Ser Thr
1 5 10

<210> 265

<211> 12

<212> PRT

<213> Homo sapiens

<400> 265

Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr
1 5 10

<210> 266

<211> 12

<212> PRT

<213> Homo sapiens

<400> 266

Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr

1 5 10

<210> 267

<211> 12

<212> PRT

<213> Homo sapiens

<400> 267

Phe Thr His Trp Ile Pro Val Pro Thr Ser Ser Thr
1 5 10

<210> 268

<211> 12

<212> PRT

<213> Homo sapiens

<400> 268

Phe Thr His Trp Ser Pro Ile Pro Thr Thr Ser Thr
1 5 10

<210> 269

<211> 12

<212> PRT

<213> Homo sapiens

<400> 269

Phe Thr His Trp Ser Ser Gly Leu Thr Thr Ser Thr
1 5 10

<210> 270

<211> 12

<212> PRT

<213> Homo sapiens

<400> 270

Phe His Pro Arg Ser Ser Val Pro Thr Thr Ser Thr
1 5 10

<210> 271

<211> 12

<212> PRT

<213> Homo sapiens

<400> 271

Phe Asn Pro Arg Ser Ser Val Pro Thr Thr Ser Thr
1 5 10

<210> 272

<211> 12

<212> PRT

<213> Homo sapiens

<400> 272

Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr
1 5 10

<210> 273

<211> 12

<212> PRT

<213> Homo sapiens

<400> 273

Phe Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Ile
1 5 10

<210> 274

<211> 12

<212> PRT

<213> Homo sapiens

<400> 274

Phe Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Thr
1 5 10

<210> 275

<211> 12

<212> PRT

<213> Homo sapiens

<400> 275

Phe Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Val
1 5 10

<210> 276

<211> 12

<212> PRT

<213> Homo sapiens

<400> 276

Tyr Asn Glu Pro Gly Leu Asp Glu Pro Pro Thr Thr
1 5 10

<210> 277

<211> 12

<212> PRT

<213> Homo sapiens

<400> 277

Tyr Ala Pro Gln Asn Leu Ser Ile Arg Gly Glu Tyr
1 5 10

<210> 278

<211> 21

<212> PRT

<213> Homo sapiens

<400> 278

Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser
1 5 10 15

Ser Pro Ser Pro Thr
20

<210> 279

<211> 23

<212> PRT

<213> Homo sapiens

<400> 279

Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser
1 5 10 15

Leu Ser Ser Pro Thr Ile Met
20

<210> 280

<211> 21

<212> PRT

<213> Homo sapiens

<400> 280

Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Phe Ser
1 5 10 15

Leu Pro Ser Pro Ala
20

<210> 281

<211> 20

<212> PRT

<213> Homo sapiens

<400> 281

Pro Gly Thr Ser Thr Val Asp Leu Gly Ser Gly Thr Pro Ser Ser Leu
1 5 10 15

Pro Ser Pro Thr
20

<210> 282

<211> 20

<212> PRT

<213> Homo sapiens

<400> 282

Pro Gly Thr Ser Thr Val Asp Leu Gly Ser Gly Thr Pro Ser Leu Pro
1 5 10 15

Ser Ser Pro Thr
20

<210> 283

<211> 21

<212> PRT

<213> Homo sapiens

<400> 283

Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser
1 5 10 15

Leu Pro Ser Pro Thr
20

<210> 284

<211> 21

<212> PRT

<213> Homo sapiens

<400> 284

Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Val Ser
1 5 10 15

Lys Pro Gly Pro Ser
20

<210> 285

<211> 21

<212> PRT

<213> Homo sapiens

<400> 285

Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Pro
1 5 10 15

Val Pro Ser Pro Thr
20

<210> 286

<211> 21

<212> PRT

<213> Homo sapiens

<400> 286

Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser
1 5 10 15

Phe Pro Gly His Thr
20

<210> 287

<211> 21

<212> PRT

<213> Homo sapiens

<400> 287

Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser
1 5 10 15

Leu Pro Gly His Thr
20

<210> 288

<211> 21

<212> PRT

<213> Homo sapiens

<400> 288

Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Pro
1 5 10 15

Leu Pro Gly His Thr
20

<210> 289

<211> 21

<212> PRT

<213> Homo sapiens

<400> 289

Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser
1 5 10 15

Leu Ser Gly Pro Thr
20

<210> 290

<211> 21

<212> PRT

<213> Homo sapiens

<400> 290

Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser
1 5 10 15

Leu Pro Gly His Thr
20

<210> 291

<211> 21

<212> PRT

<213> Homo sapiens

<400> 291

Pro Gly Thr Ser Ala Val His Leu Glu Thr Thr Gly Thr Pro Ser Ser
1 5 10 15

Phe Pro Gly His Thr
20

<210> 292

<211> 21

<212> PRT

<213> Homo sapiens

<400> 292

Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser
1 5 10 15

Leu Pro Arg Pro Ile
20

<210> 293

<211> 21

<212> PRT

<213> Homo sapiens

<400> 293

Pro Gly Thr Ser Ile Val Asn Leu Gly Thr Ser Gly Ile Pro Pro Ser
1 5 10 15

Leu Pro Glu Thr Thr
20

<210> 294

<211> 21

<212> PRT

<213> Homo sapiens

<400> 294

Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu Thr Pro Ser Ser
1 5 10 15

Leu Pro Gly Pro Thr

20

<210> 295

<211> 21

<212> PRT

<213> Homo sapiens

<400> 295

Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Val Ser
1 5 10 15

Lys Pro Gly Pro Ser
20

<210> 296

<211> 21

<212> PRT

<213> Homo sapiens

<400> 296

Pro Gly Thr Pro Thr Val Tyr Leu Gly Ala Ser Lys Thr Pro Ala Ser
1 5 10 15

Ile Phe Gly Pro Ser
20

<210> 297

<211> 16

<212> PRT

<213> Homo sapiens

<400> 297

Pro Lys Pro Ala Thr Thr Phe Leu Pro Pro Leu Ser Glu Ala Thr Thr
1 5 10 15

<210> 298

<211> 21

<212> PRT

<213> Homo sapiens

<400> 298

Gln Ile Asn Phe His Ile Val Asn Trp Asn Leu Ser Asn Pro Asp Pro
1 5 10 15

Thr Ser Ser Glu Tyr
20

<210> 299

<211> 1794

<212> PRT

<213> Homo sapiens

<400> 299

Met Glu His Ile Thr Lys Ile Pro Asn Glu Ala Ala His Arg Gly Thr
1 5 10 15

Ile Arg Pro Val Lys Gly Pro Gln Thr Ser Thr Ser Pro Ala Ser Pro
20 25 30

Lys Gly Leu His Thr Gly Gly Thr Lys Arg Met Glu Thr Thr Thr Thr
35 40 45

Ala Leu Lys Thr Thr Thr Thr Ala Leu Lys Thr Thr Ser Arg Ala Thr
50 55 60

Leu Thr Thr Ser Val Tyr Thr Pro Thr Leu Gly Thr Leu Thr Pro Leu
65 70 75 80

Asn Ala Ser Arg Gln Met Ala Ser Thr Ile Leu Thr Glu Met Met Ile
85 90 95

Thr Thr Pro Tyr Val Phe Pro Asp Val Pro Glu Thr Thr Ser Ser Leu
100 105 110

Ala Thr Ser Leu Gly Ala Glu Thr Ser Thr Ala Leu Pro Arg Thr Thr
115 120 125

Pro Ser Val Leu Asn Arg Glu Ser Glu Thr Thr Ala Ser Leu Val Ser
130 135 140

Arg Ser Gly Ala Glu Arg Ser Pro Val Ile Gln Thr Leu Asp Val Ser
145 150 155 160

Ser Ser Glu Pro Asp Thr Thr Ala Ser Trp Val Ile His Pro Ala Glu
165 170 175

Thr Ile Pro Thr Val Ser Lys Thr Thr Pro Asn Phe Phe His Ser Glu
180 185 190

Leu Asp Thr Val Ser Ser Thr Ala Thr Ser His Gly Ala Asp Val Ser
195 200 205

Ser Ala Ile Pro Thr Asn Ile Ser Pro Ser Glu Leu Asp Ala Leu Thr
210 215 220

Pro Leu Val Thr Ile Ser Gly Thr Asp Thr Ser Thr Thr Phe Pro Thr
225 230 235 240

Leu Thr Lys Ser Pro His Glu Thr Glu Thr Arg Thr Thr Trp Leu Thr
245 250 255

His Pro Ala Glu Thr Ser Ser Thr Ile Pro Arg Thr Ile Pro Asn Phe
260 265 270

Ser His His Glu Ser Asp Ala Thr Pro Ser Ile Ala Thr Ser Pro Gly
275 280 285

Ala Glu Thr Ser Ser Ala Ile Pro Ile Met Thr Val Ser Pro Gly Ala
290 295 300

Glu Asp Leu Val Thr Ser Gln Val Thr Ser Ser Gly Thr Asp Arg Asn
305 310 315 320

Met Thr Ile Pro Thr Leu Thr Leu Ser Pro Gly Glu Pro Lys Thr Ile
325 330 335

Ala Ser Leu Val Thr His Pro Glu Ala Gln Thr Ser Ser Ala Ile Pro
340 345 350

Thr Ser Thr Ile Ser Pro Ala Val Ser Arg Leu Val Thr Ser Met Val
355 360 365

Thr Ser Leu Ala Ala Lys Thr Ser Thr Thr Asn Arg Ala Leu Thr Asn
370 375 380

Ser Pro Gly Glu Pro Ala Thr Thr Val Ser Leu Val Thr His Pro Ala
385 390 395 400

Gln Thr Ser Pro Thr Val Pro Trp Thr Thr Ser Ile Phe Phe His Ser
405 410 415

Lys Ser Asp Thr Thr Pro Ser Met Thr Thr Ser His Gly Ala Glu Ser
420 425 430

Ser Ser Ala Val Pro Thr Pro Thr Val Ser Thr Glu Val Pro Gly Val
435 440 445

Val Thr Pro Leu Val Thr Ser Ser Arg Ala Val Ile Ser Thr Thr Ile
450 455 460

Pro Ile Leu Thr Leu Ser Pro Gly Glu Pro Glu Thr Thr Pro Ser Met
465 470 475 480

Ala Thr Ser His Gly Glu Glu Ala Ser Ser Ala Ile Pro Thr Pro Thr
485 490 495

Val Ser Pro Gly Val Pro Gly Val Val Thr Ser Leu Val Thr Ser Ser

500 505 510

Arg Ala Val Thr Ser Thr Thr Ile Pro Ile Leu Thr Phe Ser Leu Gly
515 520 525

Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Thr Glu Ala
530 535 540

Gly Ser Ala Val Pro Thr Val Leu Pro Glu Val Pro Gly Met Val Thr
545 550 555 560

Ser Leu Val Ala Ser Ser Arg Ala Val Thr Ser Thr Thr Leu Pro Thr
565 570 575

Leu Thr Leu Ser Pro Gly Glu Pro Glu Thr Thr Pro Ser Met Ala Thr
580 585 590

Ser His Gly Ala Glu Ala Ser Ser Thr Val Pro Thr Val Ser Pro Glu
595 600 605

Val Pro Gly Val Val Thr Ser Leu Val Thr Ser Ser Ser Gly Val Asn
610 615 620

Ser Thr Ser Ile Pro Thr Leu Ile Leu Ser Pro Gly Glu Leu Glu Thr
625 630 635 640

Thr Pro Ser Met Ala Thr Ser His Gly Ala Glu Ala Ser Ser Ala Val
645 650 655

Pro Thr Pro Thr Val Ser Pro Gly Val Ser Gly Val Val Thr Pro Leu
660 665 670

Val Thr Ser Ser Arg Ala Val Thr Ser Thr Thr Ile Pro Ile Leu Thr
675 680 685

Leu Ser Ser Ser Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His
690 695 700

Gly Val Glu Ala Ser Ser Ala Val Leu Thr Val Ser Pro Glu Val Pro
705 710 715 720

Gly Met Val Thr Ser Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr
725 730 735

Thr Ile Pro Thr Leu Thr Ile Ser Ser Asp Glu Pro Glu Thr Thr Thr
740 745 750

Ser Leu Val Thr His Ser Glu Ala Lys Met Ile Ser Ala Ile Pro Thr
755 760 765

Leu Ala Val Ser Pro Thr Val Gln Gly Leu Val Thr Ser Leu Val Thr
770 775 780

Ser Ser Gly Ser Glu Thr Ser Ala Phe Ser Asn Leu Thr Val Ala Ser
785 790 795 800

Ser Gln Pro Glu Thr Ile Asp Ser Trp Val Ala His Pro Gly Thr Glu
805 810 815

```
Ala Ser Ser Val Val Pro Thr Leu Thr Val Ser Thr Gly Glu Pro Phe
            820                 825                 830

Thr Asn Ile Ser Leu Val Thr His Pro Ala Glu Ser Ser Ser Thr Leu
        835                 840                 845

Pro Arg Thr Thr Ser Arg Phe Ser His Ser Glu Leu Asp Thr Met Pro
    850                 855                 860

Ser Thr Val Thr Ser Pro Glu Ala Glu Ser Ser Ser Ala Ile Ser Thr
865                 870                 875                 880

Thr Ile Ser Pro Gly Ile Pro Gly Val Leu Thr Ser Leu Val Thr Ser
                885                 890                 895

Ser Gly Arg Asp Ile Ser Ala Thr Phe Pro Thr Val Pro Glu Ser Pro
            900                 905                 910

His Glu Ser Glu Ala Thr Ala Ser Trp Val Thr His Pro Ala Val Thr
        915                 920                 925

Ser Thr Thr Val Pro Arg Thr Thr Pro Asn Tyr Ser His Ser Glu Pro
    930                 935                 940

Asp Thr Thr Pro Ser Ile Ala Thr Ser Pro Gly Ala Glu Ala Thr Ser
945                 950                 955                 960

Asp Phe Pro Thr Ile Thr Val Ser Pro Asp Val Pro Asp Met Val Thr
                965                 970                 975

Ser Gln Val Thr Ser Ser Gly Thr Asp Thr Ser Ile Thr Ile Pro Thr
            980                 985                 990

Leu Thr Leu Ser Ser Gly Glu Pro  Glu Thr Thr Thr Ser  Phe Ile Thr
        995                 1000                1005

Tyr Ser  Glu Thr His Thr Ser  Ser Ala Ile Pro Thr  Leu Pro Val
    1010                1015                1020

Ser Pro  Gly Ala Ser Lys Met  Leu Thr Ser Leu Val  Ile Ser Ser
    1025                1030                1035

Gly Thr  Asp Ser Thr Thr Thr  Phe Pro Thr Leu Thr  Glu Thr Pro
    1040                1045                1050

Tyr Glu  Pro Glu Thr Thr Ala  Ile Gln Leu Ile His  Pro Ala Glu
    1055                1060                1065

Thr Asn  Thr Met Val Pro Arg  Thr Thr Pro Lys Phe  Ser His Ser
    1070                1075                1080

Lys Ser  Asp Thr Thr Leu Pro  Val Ala Ile Thr Ser  Pro Gly Pro
    1085                1090                1095

Glu Ala  Ser Ser Ala Val Ser  Thr Thr Thr Ile Ser  Pro Asp Met
    1100                1105                1110

Ser Asp  Leu Val Thr Ser Leu  Val Pro Ser Ser Gly  Thr Asp Thr
    1115                1120                1125
```

Ser Thr Thr Phe Pro Thr Leu Ser Glu Thr Pro Tyr Glu Pro Glu
1130 1135 1140

Thr Thr Ala Thr Trp Leu Thr His Pro Ala Glu Thr Ser Thr Thr
1145 1150 1155

Val Ser Gly Thr Ile Pro Asn Phe Ser His Arg Gly Ser Asp Thr
1160 1165 1170

Ala Pro Ser Met Val Thr Ser Pro Gly Val Asp Thr Arg Ser Gly
1175 1180 1185

Val Pro Thr Thr Thr Ile Pro Pro Ser Ile Pro Gly Val Val Thr
1190 1195 1200

Ser Gln Val Thr Ser Ser Ala Thr Asp Thr Ser Thr Ala Ile Pro
1205 1210 1215

Thr Leu Thr Pro Ser Pro Gly Glu Pro Glu Thr Thr Ala Ser Ser
1220 1225 1230

Ala Thr His Pro Gly Thr Gln Thr Gly Phe Thr Val Pro Ile Arg
1235 1240 1245

Thr Val Pro Ser Ser Glu Pro Asp Thr Met Ala Ser Trp Val Thr
1250 1255 1260

His Pro Pro Gln Thr Ser Thr Pro Val Ser Arg Thr Thr Ser Ser
1265 1270 1275

Phe Ser His Ser Ser Pro Asp Ala Thr Pro Val Met Ala Thr Ser
1280 1285 1290

Pro Arg Thr Glu Ala Ser Ser Ala Val Leu Thr Thr Ile Ser Pro
1295 1300 1305

Gly Ala Pro Glu Met Val Thr Ser Gln Ile Thr Ser Ser Gly Ala
1310 1315 1320

Ala Thr Ser Thr Thr Val Pro Thr Leu Thr His Ser Pro Gly Met
1325 1330 1335

Pro Glu Thr Thr Ala Leu Leu Ser Thr His Pro Arg Thr Glu Thr
1340 1345 1350

Ser Lys Thr Phe Pro Ala Ser Thr Val Phe Pro Gln Val Ser Glu
1355 1360 1365

Thr Thr Ala Ser Leu Thr Ile Arg Pro Gly Ala Glu Thr Ser Thr
1370 1375 1380

Ala Leu Pro Thr Gln Thr Thr Ser Ser Leu Phe Thr Leu Leu Val
1385 1390 1395

Thr Gly Thr Ser Arg Val Asp Leu Ser Pro Thr Ala Ser Pro Gly
1400 1405 1410

Val Ser Ala Lys Thr Ala Pro Leu Ser Thr His Pro Gly Thr Glu

1415 1420 1425

Thr Ser Thr Met Ile Pro Thr Ser Thr Leu Ser Leu Gly Leu Leu
1430 1435 1440

Glu Thr Thr Gly Leu Leu Ala Thr Ser Ser Ser Ala Glu Thr Ser
1445 1450 1455

Thr Ser Thr Leu Thr Leu Thr Val Ser Pro Ala Val Ser Gly Leu
1460 1465 1470

Ser Ser Ala Ser Ile Thr Thr Asp Lys Pro Gln Thr Val Thr Ser
1475 1480 1485

Trp Asn Thr Glu Thr Ser Pro Ser Val Thr Ser Val Gly Pro Pro
1490 1495 1500

Glu Phe Ser Arg Thr Val Thr Gly Thr Thr Met Thr Leu Ile Pro
1505 1510 1515

Ser Glu Met Pro Thr Pro Pro Lys Thr Ser His Gly Glu Gly Val
1520 1525 1530

Ser Pro Thr Thr Ile Leu Arg Thr Thr Met Val Glu Ala Thr Asn
1535 1540 1545

Leu Ala Thr Thr Gly Ser Ser Pro Thr Val Ala Lys Thr Thr Thr
1550 1555 1560

Thr Phe Asn Thr Leu Ala Gly Ser Leu Phe Thr Pro Leu Thr Thr
1565 1570 1575

Pro Gly Met Ser Thr Leu Ala Ser Glu Ser Val Thr Ser Arg Thr
1580 1585 1590

Ser Tyr Asn His Arg Ser Trp Ile Ser Thr Thr Ser Ser Tyr Asn
1595 1600 1605

Arg Arg Tyr Trp Thr Pro Ala Thr Ser Thr Pro Val Thr Ser Thr
1610 1615 1620

Phe Ser Pro Gly Ile Ser Thr Ser Ser Ile Pro Ser Ser Thr Ala
1625 1630 1635

Ala Thr Val Pro Phe Met Val Pro Phe Thr Leu Asn Phe Thr Ile
1640 1645 1650

Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg
1655 1660 1665

Lys Phe Asn Ala Thr Glu Arg Glu Leu Gln Gly Leu Leu Lys Pro
1670 1675 1680

Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu Tyr Ser Gly Cys Arg
1685 1690 1695

Leu Ala Ser Leu Arg Pro Glu Lys Asp Ser Ser Ala Met Ala Val
1700 1705 1710

Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu Asp Leu Gly Leu
1715 1720 1725

Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn Leu Thr Asn Gly
1730 1735 1740

Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr
1745 1750 1755

Val Asn Gly Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr
1760 1765 1770

Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser
1775 1780 1785

Ser Ser Pro Ser Pro Thr
1790

<210> 300

<211> 284

<212> PRT

<213> Homo sapiens

<400> 300

Ile Thr Leu Leu Arg Asp Ile Gln Asp Lys Val Thr Thr Leu Tyr Lys
1 5 10 15

Gly Ser Gln Leu His Asp Thr Phe Arg Phe Cys Leu Val Thr Asn Leu
20 25 30

Thr Met Asp Ser Val Leu Val Thr Val Lys Ala Leu Phe Ser Ser Asn
35 40 45

Leu Asp Pro Ser Leu Val Glu Gln Val Phe Leu Asp Lys Thr Leu Asn
50 55 60

Ala Ser Phe His Trp Leu Gly Ser Thr Tyr Gln Leu Val Asp Ile His
65 70 75 80

Val Thr Glu Met Glu Ser Ser Val Tyr Gln Pro Thr Ser Ser Ser Ser
85 90 95

Thr Gln His Phe Tyr Leu Asn Phe Thr Ile Thr Asn Leu Pro Tyr Ser
100 105 110

Gln Asp Lys Ala Gln Pro Gly Thr Thr Asn Tyr Gln Arg Asn Lys Arg
115 120 125

Asn Ile Glu Asp Ala Leu Asn Gln Leu Phe Arg Asn Ser Ser Ile Lys
130 135 140

Ser Tyr Phe Ser Asp Cys Gln Val Ser Thr Phe Arg Ser Val Pro Asn
145 150 155 160

```
Arg His His Thr Gly Val Asp Ser Leu Cys Asn Phe Ser Pro Leu Ala
                165                 170                 175

Arg Arg Val Asp Arg Val Ala Ile Tyr Glu Glu Phe Leu Arg Met Thr
            180                 185                 190

Arg Asn Gly Thr Gln Leu Gln Asn Phe Thr Leu Asp Arg Ser Ser Val
        195                 200                 205

Leu Val Asp Gly Tyr Ser Pro Asn Arg Asn Glu Pro Leu Thr Gly Asn
    210                 215                 220

Ser Asp Leu Pro Phe Trp Ala Val Ile Leu Ile Gly Leu Ala Gly Leu
225                 230                 235                 240

Leu Gly Leu Ile Thr Cys Leu Ile Cys Gly Val Leu Val Thr Thr Arg
                245                 250                 255

Arg Arg Lys Lys Glu Gly Glu Tyr Asn Val Gln Gln Gln Cys Pro Gly
            260                 265                 270

Tyr Tyr Gln Ser His Leu Asp Leu Glu Asp Leu Gln
        275                 280
```


<210> 301

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic primer

<400> 301
gtctctatgt caatggtttc accc 24

<210> 302

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic primer

<400> 302
tagctgctct ctgtccagtc c 21

<210> 303

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic primer

<400> 303
ggacaaggtc accacactct ac 22

<210> 304

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic primer

<400> 304
gcagatcctc caggtctagg tgtg 24

<210> 305

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic primer

<400> 305
gtctctatgt caatggtttc accc 24

<210> 306

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic primer

<400> 306
tagctgctct ctgtccagtc c 21